



# Patterns of Sexual Violence and Associated Risk Factors among Female Undergraduate Students at Addis Ababa University's College of Health Sciences

Urgaha B<sup>1</sup>, Tefera M<sup>2\*</sup>, Ayele W<sup>3</sup> and Busse H<sup>4,5</sup>

<sup>1</sup>St. Peter Hospital, Ethiopia

<sup>2</sup>School of Medicine, College of Health Sciences, Addis Ababa University, Ethiopia

<sup>3</sup>School of Public Health, College of Health Sciences, Addis Ababa University, Ethiopia

<sup>4</sup>School of Human Ecology, University of Wisconsin, USA

<sup>5</sup>School of Nutrition and Food Science Technology, Hawassa University, Ethiopia

## Abstract

**Background:** Globally, an estimated one in three women has been sexually abused and one in five experience rape or attempted rape sometime in their lifetimes. Sexual violence not only affects women's physical and emotional health but also is a violation of human rights. Despite many individuals, interpersonal, and social consequences of sexual violence, there is limited information about its prevalence and determinants in Ethiopia. Therefore, this study assesses the patterns of sexual violence, assault, abuse, and associated risk factors among female undergraduate students at Addis Ababa University in Ethiopia.

**Methods:** Across-sectional study was conducted among 261 female undergraduate students from Addis Ababa University's College of Health Sciences. Data were collected in February 2016 using self-administered, structured questionnaires. Patterns of violence were analyzed and presented as descriptive statistics. Binary logistic regression was used to assess associations between sexual violence outcomes and factors potentially associated ( $p < 0.05$ ).

**Results:** Sixty percent (60.5%) of women reported experiencing any type of sexual violence during their lifetime, and 23.9% had been raped. Reported physical consequences of sexual violence included abortion, unwanted pregnancy, vaginal discharge, and genital trauma.

**Conclusion:** Sexual violence affects a high proportion of female undergraduate students at Addis Ababa University in Ethiopia.

**Keywords:** Sexual violence; Reproductive health; Counseling and health services; Policy advocacy

## Abbreviation

HIV: Human Immunodeficiency Virus; WHO: World Health Organization; STDs: Sexually Transmitted Diseases; CHS: College of Health Science; SoM: School of Medicine; SoP: School of Pharmacy; SPH: School of Public Health; STI: Sexually Transmitted Infection

## Background

Sexual violence occurs throughout the world. Data suggest that, in some countries, nearly one in four women may experience sexual violence by an intimate partner, and up to one-third of adolescent girls report their first sexual experience as being forced [1]. Sexual violence has life-long impacts on an individual's physical, emotional, and social well-being. As well as causing immediate physical injury, it has been associated with an increased risk of a range of sexual and reproductive health problems, with both immediate and long-term consequences, some of them avoiding marriage to any men remembering of what happened at that time. Its impact on mental and emotional health is as serious as the physical impacts. Deaths following sexual violence may result from suicide, HIV infection, or murder the latter occurring either during a sexual assault or subsequently, as a murder of "honors" [1]. Sexual violence can also affect social relationships for victims, as individuals may be stigmatized and ostracized by their families; have difficulty developing healthy relationships, and experience life-long feelings of alienation and shame [1].

## OPEN ACCESS

### \*Correspondence:

Muluwork Tefera, School of Medicine,  
College of Health Sciences, Addis  
Ababa University, Addis Ababa,  
Ethiopia,

E-mail: muluworktef@yahoo.com

Received Date: 10 Nov 2022

Accepted Date: 10 Feb 2023

Published Date: 20 Feb 2023

### Citation:

Urgaha B, Tefera M, Ayele W, Busse  
H. Patterns of Sexual Violence and  
Associated Risk Factors among Female  
Undergraduate Students at Addis  
Ababa University's College of Health  
Sciences. *Open J Public Health*. 2023;  
5(1): 1044.

**Copyright** © 2023 Tefera M. This is an  
open access article distributed under  
the Creative Commons Attribution  
License, which permits unrestricted  
use, distribution, and reproduction in  
any medium, provided the original work  
is properly cited.

Little is known about gender-based violence perpetrated against adolescent and young adult women in sub-Saharan Africa, and specifically Ethiopia, as there have been few published studies within these populations. This is a concern, as previous research has shown that woman's experiences of sexual victimization in late adolescence and young adulthood can have far-reaching consequences, including unwanted pregnancy and increased risk of psychological, sexual, and reproductive health difficulties [2-5]. Analyses in developing countries have also found that these experiences can limit young women's ability to achieve their educational, economic, and political potential [6].

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" [7].

Sexual violence is the act of forcing (or attempting to force) physical harm by any means to engage another person in sexual behavior against their will. Sexual coercion exists along a continuum of influence, from forcible, physical rape to non-physical forms of pressure that compel individuals to engage in a sexual act against their will. In some forms of coercion, a person lacks choice and faces severe physical or social consequences if one resists sexual advances [8].

Sexual violence includes the use of coercion, threats, verbal insistence, deception, cultural expectations, or economic circumstances. The outcome is a lack of choice to pursue other options without any severe consequences [9]. The perpetrators of sexual violence tend to be from a victim's neighborhood, both familiar persons and strangers. The violent episode can occur at home, in a public area, or in the house of a friend, relative, or neighbor [10].

According to the United Nations Declaration on the Elimination of Violence, Proclaimed by General Assembly resolution 48/104 on December 20<sup>th</sup>, 1993, violence against women includes any act of gender-based violence that results in physical, sexual, psychological harm or suffering, including threats or acts as durable deprivation of liberty, whether occurring in public or private life [11]. Besides its physical and mental consequences, sexual violence has also been identified as an important risk factor for acquiring sexually transmitted diseases; in particular, HIV infection. An increased risk of HIV transmission within abusive relationships and a greater likelihood of acquisition of HIV infection by abusive husbands have been reported [12,13].

One study about Sexually Transmitted Diseases (STDs) from the state of Washington explored the acquisition of STDs during the assault. Reported rates of gonorrhea and syphilis in adult sexual violence victims range from 6% to 12% and from 0% to 3%, respectively [14].

When sexual abuse occurs in university female students, there was no significant association between harassment, attempted rape, and class performance; however, experiencing rape sometimes in a women's life time was significantly associated with class performance [15].

The objective of this study was to assess the patterns of sexual violence and associated risk factors among female undergraduate

students at Addis Ababa University's College of Health Sciences in Addis Ababa, Ethiopia [16,17].

## Methods

The study was conducted among undergraduate female students at Addis Ababa University, College Health Sciences between February 1<sup>st</sup> to 29<sup>th</sup>, 2018. Female undergraduate students were selected for this study because they are away from home and traditional support systems, thereby having greater independence but also greater vulnerability to experiences and exposures to sexual encounters and potential abuse. Addis Ababa University (AAU) is one of the largest universities in Ethiopia. The College of Health Sciences (CHS) is a professional health sciences college, established in 2009/10 by the reorganization of previously separate institutions. The CHS has comprised of four school operations 17 departments, and one teaching hospital. The four schools are the School of Medicine (SoM), the School of Pharmacy (SoP), the School of Public Health (SPH), and the School of Allied Health Sciences (SAHS). All schools within CHS offer professional degrees at both undergraduate and postgraduate levels. The total number of undergraduate students for the 2015/2016 academic year was 3,092, of whom 1,053 were female and 2,036 were male.

A cross-sectional study was employed among randomly selected female undergraduate students from AAU's CHS to assess patterns of sexual violence and explore associated risk factors. Inclusion criteria were: Female and being a student from any of the schools within AAU's CHS. We excluded students with special needs (i.e., those who were unable to participate due to inability to hear or to see).

A list of undergraduate female students by department and year of study was obtained from the registrar. The determined sample was allocated proportionally to the size of each department by year of study. Then, a proportional number of study participants were selected from within each year. The total sample size was 261 undergraduate female students, and 256 participants responded making the response rate 98.1%.

Before data collection, approval for this study was obtained from the department ethical clearance committee. We obtained written informed consent from all study participants before collecting data. The participants were informed, about the study and requested voluntarily to fill the structured questioners. As the information is sensitive the questioners were prepared without identifying the name of the participants. The participants were informed as they may withdraw from the study at any stage of the data collection period.

## Operational definitions

**Sexual violence:** Is defined as the act of forcing or attempting to force a female to engage in sexual behavior against her will through physically assault, verbal abuse, and sexual abuse/sexual harassment by family members, boyfriends, teachers, intimate partners, or other unknown people.

**Consequences of sexual violence:** They include the physical, social, economic, and psychological status of the victim women or girls after coercion.

**Rape:** It is the act of forcing a female through violent threats and deception to engage in sexual behaviors with penetration of the vagina.

**Attempted rape:** It is defined as a trial to have sexual intercourse

without the consent of the girls but penetration of the vagina.

**Performed rape:** Is defined as any nonconsensual penetration of the woman's vagina by threatening bodily harm or when the victim is incapable of giving consent.

**Physical consequences of sexual violence:** Raped victims reported problems of lacerations, pregnancy/abortion, Sexually Transmitted Infections (STIs), and other injuries.

**Data entry and analysis**

Data were entered, cleaned, and coded by (one or two research team members?) and checked for missing values, outliers, and inconsistencies. Analyses were conducted using SPSS version 20.0. Descriptive statistics were used to summarize the demographics of study participants and patterns of reported sexual violence. Bivariate logistic regression was used to measure associations between variables found to be associated (p<0.2) with the outcome of interest (i.e., experienced sexual violence). The results of the final model were expressed in terms of Odd Ratios (OR) with 95% Confidence Intervals (CI). Statistical significance for the bivariate analysis was set at p<0.05.

**Results**

**Sociodemographic characteristics**

Of the distributed surveys, 256 responses were included in the study for a response rate of 98.1%. About half (47.7%) of the respondents were between 17 to 21 years of age (Table 1). The mean age of respondents was 22.3 years (SD 2.9 years). The majority of respondents were single (80.5%), with 1.6% being divorced. The religious status of respondents included Orthodox Christian (39.8%), Muslim (33.6%), Protestant (21.9%), and other (3.1%). Regarding the previous place of residence, the majority (75.8%) were from urban areas. Respondents in their first and second years accounted for (39.5%), while 24.2% were studying in their fifth year and above (Table 2).

**Sexual history and occurrence of sexual violence**

More than half of respondents (n=137, or 53.5%) currently

**Table 1:** Sociodemographic characteristics of the respondents, among undergraduate female students of Addis Ababa University, College of Health Sciences (February 2018).

Variable	Characteristics	Frequency	%
Age of respondent	17-21	122	47.70%
	22-26	107	41.80%
	≥ 27	27	10.50%
Marital status	Single	206	80.50%
	Married	46	18.00%
	Divorced	4	1.60%
	Orthodox	102	39.80%
Religion	Protestants	56	21.90%
	Muslim	86	33.60%
Previous place of residence/living	Others	12	4.70%
	Urban	194	75.80%
Year of education	Rural	62	24.20%
	The year I-II	101	39.50%
	Year III-IV	93	36.30%
	≥ Year V	62	24.20%

have boyfriends. About half (n=122, or 47.7%) had ever had sexual intercourse. The mean age at sexual debut was 17.0 years (SD 2.93 years). About two-thirds (n=81, or 66.4%) started sexual intercourse between 13 to 17 years of age. Reasons indicated for their first sexual initiation/intercourse included love/desire (37.7%), forced/raped (15.6%), peer pressure (13.9%), promising words (13.1%), and marriage (11.5%). The majority (63.1%) reported having only one sexual partner in their lifetime, and a majority (55.7%) also reported being sexually active in the last six months. Most (60.5%) had encountered some type of sexual violence in their lifetime, of which 59.4% had first experienced this after joining university (Table 3).

**Factors associated with sexual violence**

According to the multivariable logistic regression analysis, study participants who received financial support for education from their parents were more likely to be exposed to any type of sexual violence than those who received education support from their husbands (AOR=2.40, 95% CI: 1.27-4.54). Similarly, the odds of any type of sexual violence for study participants who used substances (Alcohol and Chat) was approximately four times higher (AOR=4.3; 95% CI,

**Table 2:** Multivariable analysis of selected variables among undergraduate female students of Addis Ababa University, College of health sciences (June 2018).

Characteristics	Variable	N	AOR	95% CI
Religion	Orthodox*	102		
	Protestants	56	4.032	0.442 36.809
	Muslim	86	2.069	0.25 17.131
	Others	12	1.641	0.027 101.461
Place of residence/living	Urban*	194		
	Rural	62	4.061	0.279 59.048
Family size including them	<5*	148		
	≥ 5	108	1.982	0.316 12.431
Mothers' educational status	Illiterate	45	0.887	0.411 1.915
	Can read and write	24	1.16	0.421 3.195
	Primary education (1-8)	33	2.011	0.815 4.961
	Secondary education	65	1.011	0.514 1.987
	College/University*	89		
Father educational status	Illiterate	21	1.248	0.46 3.383
	Can read and write	19	1.627	0.528 5.015
	Primary education (1-8)	16	0.338	0.112 1.016
	Secondary education	44	0.631	0.311 1.28
	College/University*	156		
Source of financial support on education	Husband*	36		
	Both parents	168	8.239	2.193 30.955
	Mother or Father alone	41	11.706	2.116 64.762
	Relatives	11	2.094	0.174 25.223
Age at first sexual debut	Less than 18*	81		
	18 and above	41		
Are you using substances (alcohol, tobacco, chat)?	No*	182		
	Yes**	74	4.28	2.155 8.504
Having boyfriends	No**	119	1.824	1.057 3.147

\*\* Statistically significant at p-value less 0.005 \* reference group

**Table 3:** Sexual history and violence of the respondents among undergraduate female students of Addis Ababa University, College of health sciences (February 2018).

Sexual characteristics	Variable	Number	Percent
Have boyfriends currently	Yes	137	53.5
	No	119	46.5
Ever started sexual intercourse	Yes	122	47.7
	No	134	52.3
Age at first sexual debut	13-17	81	66.4
	18-22	35	28.7
	≥ 23	6	4.9
Number of lifetime sexual partners	Only one partner	77	63.1
	Two/ More partner	45	36.9
Sexual intercourse within the last six months	Yes	68	55.7
	No	54	44.3
Ever encountered any types of sexual violence	Yes	155	60.5
	No	101	39.5
When encountered sexual violence	Before joining University only	14	9
	After joining University only	92	59.40%
	During both	49	31.6
Ever reported an incidence of violence	Yes	32	20.6
	No	123	79.4
To whom reported violence	Friends	23	71.9
	Family	5	15.6
	Police	1	3.1
	Others	3	9.4

**Table 4:** Forms of physical and psychological violence experienced among undergraduate female students of Addis Ababa University, College of Health Sciences (February 2018).

Characteristics	Variables	Frequency	%
Encountered physical violence	Yes	141	91.00%
	No	14	9.00%
Types of physical violence	Bitten	63	44.70%
	Choked/strangled	30	21.30%
	Grabbed/pulled	74	52.50%
	Hit by thrown objects	98	69.50%
	Kicked	91	64.50%
	Pinched	97	68.80%
	Punched	58	41.10%
	Pushed/shoved/ thrown	84	59.60%
	Scratched	71	50.40%
	Slapped	98	69.50%
	Spit on	49	34.80%
Ever encountered psychological violence	Yes	151	97.40%
	No	4	2.60%
Types of psychological violence	Bullying/mobbing	83	55.00%
	Called names	131	86.80%
	Cursed at	81	53.60%
	Shouted at	116	76.80%
	Threatened	116	76.80%
	Other specify	11	7.30%

2.2-8.2) compared with those who did not use any substance (Alcohol and Chat). On the other hand, study participants who did not currently have a boyfriend were more likely to be exposed to sexual violence than those who currently have a boyfriend (AOR=1.9; 95% CI, 1.1-3.2). However, demographic factors such as the previous place of residence, religion, parental education, and occupations were not statistically significant.

**Physical and psychological violence**

Most of the respondents (n=141, or 91.0%) had encountered physical violence during undergraduate education and at any time during their life. The types of physical violence they encountered included beings lapped (n=98, or 69.5%), hit by a thrown object (n=98, or 69.5%), pinched (n=97, or 68.8%), kicked (n=91, or 64.5%), spit on (n=49, or 34.8%), and choked/strangled (n=30, or 21.3%). Almost all (n=152, or 97.4%) encountered psychological violence. Forms of psychological violence they encountered included being called names (n=131, or 86.8%), shouted at (n=116, or 76.8%), threatened (n=116, or 76.8%), and cursed at (n=81, or 53.6%) (Table 4).

**The attempt of rape and complete rape**

Forty-four percent (n=68) encountered an attempted rape, of which 37 (23.9%) were then forcibly raped. Respondents reported that the attempted or forced rape happened in the following locations: Home (35.1%), a friend’s home (29.7%), and the perpetrator’s home (27.0%). Mechanisms perpetrators used to rape include hitting (40.5%), displaying or using sharp objects (21.6%), and giving drugs or alcohol (10.8%). Of the women who had been raped, 37 reported

the following health consequences: Abortion (40.7%), pregnancy (40.7%), swelling around the genitalia (59.3%), ulcer in the genitalia (4.44%), and unusual genitalia discharge (44.4%) (Table 5).

**Discussion**

Sexual violence was experienced frequently among AAU’s CHS female undergraduate students, with 60.5% reporting it ever over their lifetimes. This rate was near twice the reported prevalence among female college students from Bahir Dar University, also located in Ethiopia, which was 37.3% [18]. Another study from Madawalabu University Ethiopia [19] revealed a 41.1% life time prevalence of sexual violence, which is also lower than our findings.

However, the rate reported by respondents from our study was lower than the reported prevalence among female students from Ambo University, also in Ethiopia, which was 76.4% [20].

In the current study lifetime rape was experienced by 20.6% of respondents, which was also a higher rate than that reported. By students from other Ethiopian study Madawalabu 10.9%, Dabat 5.1%, and Debar k 8.8% [21-23]. This might be due to the differences in age and sociocultural factors between study participants, or elements of study design, such as how the questions were worded or how participants were recruited.

The findings of rape (15.6%) in the current study were higher than the result from Hawassa University [24] that 3% rape, while consistent with findings for U.S. college students [25]. Substance use by the victim has a 4-fold risk of having a sexual assault, suggesting



**Table 5:** Attempt of rape and complete rape, among undergraduate female students of Addis Ababa University, College of health sciences (February 2018).

Characteristics	Variables	Number	Percent
Ever encountered an attempt of a rape cases	Yes	68	43.9
	No	87	56.1
Experienced the practice of forced sex or a rape case	Yes	37	23.9
	No	118	76.1
	(n=37)		
The place they encountered forced sex	At your home	13	35.1
	At perpetrator home	10	27
	At hotel	3	8.1
	At friends' home	11	29.7
Mechanism perpetrators used encountered forced sex	Hit you	15	40.5
	Put your Sharp objects	8	21.6
	Made you drink	2	5.4
	Gives drug with alcohol	4	10.8
	Support with money	8	21.6
The perpetrator of forced sex	Boyfriend	11	29.7
	Relatives	8	21.6
	Neighbor	6	16.2
	Teacher	4	8.1
	Student	4	10.8
	Stranger/unfamiliar	5	13.5
Problem encountered with rape	Abortion	11	40.7
	Pregnancy	11	40.7
	Swelling around the genitalia	16	59.3
	Ulcer in the genitalia	12	44.4
	Unusual genitalia discharge	12	44.4

that it would be beneficial for sexual assault prevention and risk-reduction programs in Ethiopia to focus on substance use awareness [26].

Female students whose childhood residence was in rural areas have no statistically significant effect on sexual coercion, unlike a study conducted at Wolayta Soddo University (Ethiopia), which reported a higher frequency of sexual coercion [27]. Having a regular boyfriend was also found to decrease the risk of experiencing sexual violence. This finding contradicts findings from the Madawalabu University study [21] where students who had a regular boyfriend experienced more sexual violence than their counterparts culturally, they are considering this type of girls are easy going.

Parental income and education were not associated with experiences of sexual violence within our study population. This finding contradicts findings from a study of female university students from Chile [28]. This finding suggests that all-female university women at AAU- regardless of economic status- are at risk for sexual violence.

Numerous studies conducted in the 1980s and 1990s revealed a high prevalence of sexual victimization among female college students in the United States, spurring initiatives to address this issue [29]. Sexual assault prevention and education programs were instituted in colleges across the country, in part due to a mandate that

campuses could only receive federal funding if they sponsored and implemented such programs [30]. Evidence from our study suggests the importance of exploring similar efforts in Ethiopia, and exploring ways to design and implement such programs that respond to contextual factors such as gender-based stereotypes, cultural models of expected relationships between women and men, and power and privilege.

## Conclusions

- More than half of the female students were victims of various forms of sexual violence. The prevalence of physical violence and psychological violence is 55.07% and 58.9% respectively.
- One-fourth of the physical violence victims encountered forced sex or rape. Significant numbers of the students had experienced the consequences of sexual violence including abortion, unwanted pregnancy, vaginal discharge, and genital trauma.
- With whom they were living before joining the university, substance-using currently, and reason to involved at first sexual initiation/intercourse (peer pressure and exchange of gift) identified have a statically significant association with sexual violence.

## Recommendations

- As the study findings indicate that female undergraduate students at an AAU's CHS experience a high rate of sexual violence, the school should develop strategies to create safer environments for female students. This may include sexual and reproductive rights education for students and faculty, and both women and men; counseling and health services for victims of sexual violence; and institutional policies that help mitigate and provide enforcement actions to hold accountable the perpetrators of sexual violence within the campus community.
- Educating females about their reproductive rights helps them to aware of their rights and improve their life skills or assertiveness, therefore awareness creation programs in the college should be strengthened.

- All students of Addis Ababa University and the broad community should be aware of reproductive health as a human right and this issue should be raised in media and community meetings.

- Educate females to decrease substance abuse on the campus.

## Funding

Funding was secured from the University of Postgraduate Program.

## Authors' Contribution

BU: Proposal development and manuscript writing; MT: Advised on proposal development, oversaw study implementation, and manuscript writing; WA: Data collection; HB: Revision of the proposal and manuscript editing.

## Acknowledgment

We thank the participants of our study for giving their time to complete the questionnaires and share information about their personal lives.

## References

1. Hakimi M, NurHayatie E, Ellsberg M, Winkrist A. Silence for the sake of harmony. Domestic violence and women's health in central Java,

- Indonesia. 2001.
2. Olaleye OS, Ajuwon AJ. Prevalence and factors associated with perpetration of non-consensual sex among students of a tertiary institution in Ibadan, Nigeria. *Afr J Reprod Health*. 2012;16(4):108-18.
  3. Rickert VI, Vaughan RD, Wiemann CM. Adolescent dating violence and date rape. *Curr Opin Obstet Gynecol*. 2002;14(5):495-500.
  4. Rickert VI, Vaughan RD, Wiemann CM. Violence against young women: Implications for clinicians contemporary ob/Gy. 2003;48(2):30-45.
  5. Krug EG, Mercy JA, Dahlberg LL, Zwi AB. World report on violence and health. *Lancet*. 2002;360(9339):1083-8.
  6. Mirsky J. Beyond victims and villains: Addressing sexual violence in the education sector. London: Panos institute, 2003.
  7. World Health Organization. Violence against women-Intimate partner and sexual violence against women. Geneva, World Health Organization, 2011.
  8. Ending Violence against Women: 2003 Series," Population Reports 11, 2003.
  9. Erulkar AS. The experience of sexual coercion among young people in Kenya. *Int Fam Plan Perspect*. 2004;30(4):182-9.
  10. Breiding MJ, Reza A, Gulaid J, Blanton C, Mercy JA, Dahlberg LL, et al. Risk factors associated with sexual violence towards girls in Swaziland. *Bull World Health Organ*. 2011;89(3):203-10.
  11. WHO. Violence against women: Aphordis health issue. World Health Organization, Geneva 1997.
  12. Silverman JG, Decker MR, Saggurti N, Balaiah D, Raj A. Intimate partner violence and HIV infection among married Indian women. *JAMA*. 2008;300(6):703-10.
  13. Decker MR, Sage GR 3<sup>rd</sup>, Hemenway D, Raj A, Saggurti N, Balaiah D, et al. Intimate partner violence functions as both a risk marker and risk factor for women's HIV infection: Findings from Indian husband-wife dyads. *J Acquir Immune Defic Syndr*. 2009;51(5):593-600.
  14. Schwarcz SK, Whittington WL. Sexual assault and sexually transmitted diseases: Detection and management in adults and children. *Rev Infect Dis*. 1990;12(6):S682-90.
  15. Henok A. The effect of sexual violence on class performance among female students of Mizan-Tepi University, South West Ethiopia. *J Community Med Health Educ*. 2015;5:373.
  16. Tadesse S. Assessments of sexual coercion among Addis Ababa University female students. Master Thesis, Addis Ababa University, Addis Ababa. 2004.
  17. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R. World health report on violence and health. World Health Organization Geneva 2002.
  18. Shimekaw B, Megabiaw B, Alamrew Z. Prevalence and associated factors of sexual violence among private college female students in Bahir Dar city, northwestern Ethiopia. *Health*. 2013;5(6):1069-75.
  19. Takele A, Setegn T. Sexual coercion and associated factors among female students of Madawalabu University, Southeast Ethiopia. *Adv Public Health*. 2014;2014:417517.
  20. Bekele T, Deressa W. Experience of sexual coercion and associated factors among female students of Ambo University in Ethiopia. *Sci J Public Health*. 2014;2(6):532-8.
  21. Bekele T, Kaso M, Gebremariam A, Deressa W. Sexual violence and associated factors among female students of Madawalabu University in Ethiopia. *Epidemiology (Sunnyvale)*. 2015;5(2):190.
  22. Tadesse S. Assessment of sexual coercion among Addis Ababa University female students. Ethiopia (MPH Thesis): Addis Ababa; 2013.
  23. Fitaw Y, Haddis K, Million F. G/Selassie K, Delil M, Yohannes M, et al. Gender-based violence among high school students in North West Ethiopia. *Ethiop Med J*. 2005;43(4):215-21.
  24. Sendo EG, Meleku M. Prevalence and factors associated with sexual violence among female students of Hawassa University in Ethiopia. *Science Postprint*. 2015;1(2):e00047.
  25. Abbey A, Ross LT, McDuffie D, McAuslan P. Alcohol and dating risk factors for sexual assault among college women. *Psychol Women Q*. 1996;20(1):147-69.
  26. Ullman SE. A critical review of field studies on the link of alcohol and adult sexual assault in women. *Aggress Violent Behav*. 2003;8(5):471-86.
  27. Yohannes MA, Mihiret AH. Sexual violence against female university students in Ethiopia. *BMC Int Health Hum Rights*. 2017;17(19):3-7.
  28. Lehrer JA, Lehrer VL, Lehrer EL, Oyarzún PB. Oyarzún prevalence of and risk factors for sexual victimization in college women in Chile. *Int Fam Plan Perspect*. 2007;33(4):168-75.
  29. Rozee PD, Koss MP. Rape: A century of resistance. *Psychol Women Q*. 2001;25(4):295-311.
  30. National Association of Student Personnel Administrators (NASPA), Complying with the Final Regulations: The student right-to-know and campus security act, Washington, DC: NASPA, 1994.