

Sexual assault cases managed at a referral hospital in Western Ethiopia: A retrospective cross-sectional study

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Abstract

Objectives: Sexual assault is the most prevalent and hidden global problem. The condition is worse in developing countries like Ethiopia. Therefore, this study described the survivors' characteristics, clinical profiles, and management of cases of sexual assault at the One-Stop Service Center for survivors of sexual assault at a referral hospital in Western Ethiopia.

Methods: A facility-based retrospective cross-sectional descriptive study was conducted to assess 203 cases of sexual assault managed at the One-Stop Service Center for survivors of sexual assault in Wollega University Referral Hospital from January 2019 to March 2022. Data were collected using a pre-tested structured checklist. Data were organized using Epidata version 3.1, cleaned, and exported to SPSS version 25 for analysis. The results were presented in tables.

Results: Of 203 cases of alleged sexual assaults during the study period, 142 (70%) and 61 (30%) of survivors were raped and attempted rape, respectively. The age of survivors ranges from 3 to 28 years with a mean age of 15.7 ± 4.7 years. One hundred ninety-four (95.6%) were females. Seventy percent of them were students. Most of the survivors, 173 (85.2%), were assaulted by a person known to them. Only 74 (36.5%) present to the hospital within 72 h. Genital injuries were documented in 153 (75.4%). More than half, 112 (55.2%), were brought to the hospital by the police officers. In this study, 34 (16.7%) of survivors were admitted and 10 (4.9%) needed surgical procedures. Serology for syphilis, hepatitis B virus and HIV were reactive in 5 (7.1%), 1 (0.5%), and 1 (0.5%) respectively. The pregnancy test was positive in 12 (7.1%) of survivors. One (0.5%) study participant died in the intensive care unit.

Conclusion: In this study, children and adolescents were the most vulnerable group, and survivors' presentation to the hospital was delayed. They presented to the hospital with variable complications, including minor genital and/or extra-genital injuries, sexually transmitted infections, unwanted pregnancy, fractures, and multiple organ failures leading to death. Therefore, it is recommended that all concerned stakeholders work on the prevention of sexual assault in the study area. Legal protection for these survivors and students should also be strengthened. It is also recommended to evaluate the execution of existing national and international policies and programs toward sexual assault to develop contextual policies and guidelines.

Keywords

Sexual assault, survivors, one-stop, Western Ethiopia

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Introduction

Globally, lifetime prevalence of gender-based violence (GBV) against women has been reported to be increasing. GBV can happen to any age group, at any place, or committed by anybody. Among the different forms of GBV, rape is the most common type.^{1–3} The prevalence of rape varies from region to region. It is 3.3% in South Asia and 21% in sub-Saharan Africa.¹ In Ethiopia, GBV is common among married and unmarried women.⁴ According to the 2016

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Ethiopian Demographic Health Survey (EDHS) report, more than one-third of ever-married women reported some form of GBV.⁵

Sexual assault is a major form of sexual violence affecting women. It includes rape, attempted rape, sexual abuse, and sexual exploitation.^{6,7} According to the World Health Organization (WHO), a sexual assault survivor is any person, irrespective of age, reporting any type of non-consensual sexual activity, whether attempted or completed.⁸ Sexual assault carries different risks to the survivors, including but not limited to physical injuries, sexually transmitted diseases, unwanted pregnancy with its complications, psychosocial trauma, and suicide.^{9–11} However, it is usually underreported. Survivors usually prefer to keep their painful experiences to themselves. This is because of fear of the assailant or social reaction, poor decision, poverty, or lack of information on where to report.^{10–12}

The nature and forms of sexual assault may vary with time and from place to place. In Ethiopia, there are different centers giving services to survivors of sexual assaults. One-Stop Service Center for survivors of sexual assault in Wollega University Referral Hospital is the only center giving referral services for the survivors in the Western part of Ethiopia. Therefore, this study is aimed to determine survivors' characteristics, clinical profiles, and management of cases of sexual assault managed at this center.

Methods and materials

Study setting and period

The study was conducted from 5 January 2019 to 25 March 2022 at the One-Stop Service Center for survivors of sexual assault in Wollega University Referral Hospital, Western Ethiopia. The hospital is located in Nekemte town 331 km west of Addis Ababa. The center was established with financial support from United Nations Population Fund (UNFP) to give service to survivors of sexual assault in the Western part of Ethiopia. It is giving free services, including but not limited to medical evaluation, treatment, psychosocial support, and legal aids. The center is run by a team of gynecologists, nurses, psychologists, public health experts, pharmacists, laboratory technologists, and legal advisors:

Study design: A facility-based retrospective cross-sectional descriptive study.

Source population: All clients getting reproductive health services at Wollega University Referral Hospital.

Study population: All survivors of sexual assault are managed at the One-Stop Service Center for survivors of sexual assault in Wollega University Referral Hospital.

Inclusion and exclusion criteria

All cases with complete documentation were included in the study while others were excluded.

Data source

The patients' medical records were included in the study. Then, the data were retrieved from the logbook at the center. Accordingly, 210 documents were identified. From these, 203 documents were found to contain all study variables and thus included in the study.

Operational definitions

Sexual assault: A major form of sexual violence that includes at least rape, attempted rape, and sexual abuse.

Rape: An act of non-consensual sexual intercourse, including the invasion of any part of the body with a sexual organ and/or the invasion of the genital or anal opening with any object or body part.

Attempted rape: Efforts to rape someone which do not result in penetration.

Assailant: A male or female, group or institution that inflicts, supports, or condones violence or other abuses against a person or group of persons.

Survivor: A person who has lived through an incident of sexual assault.

Data collection procedures

Two nurse professionals and one public health expert were recruited and trained to collect data. A logbook review was done to collect the data. Data were collected using checklist which was developed by reviewing different works of literature.^{1,3,4,6–19} A pretest was conducted on 10 (5%) of the samples. All checklists were checked for completeness by the principal investigator.

Statistical analysis

The data were coded and entered into Epi Data version 3.1, and then cleaned and exported to Statistical Package for Social Sciences (SPSS) version 25 for data analysis. Descriptive statistics like frequency and percentage were computed for data presentation. Finally, the results were presented in tables.

Results

In this study, a total of 203 survivors of sexual assault were included. The age of study participants ranges from 3 to 28 years with a mean age of 15.7 ± 4.7 years. One hundred ninety-four (95.6%) of study participants were females while 9 (4.4%) were males. One hundred fifty (73.9%) and 53 (26.6%) of study participants were from rural and urban areas, respectively. More than half, 109 (53.7%), of them live with their families. One hundred forty-two (70%) of the study participants were students (Table 1).

Table 1. Socio-demographic characteristics of survivors of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

| Variables | Frequency | % |
|---------------------------------|-----------|------|
| Age in years | | |
| <10 | 22 | 10.8 |
| 10–19 | 157 | 77.3 |
| ≥20 | 24 | 11.3 |
| Sex | | |
| Female | 194 | 95.6 |
| Male | 9 | 4.4 |
| Address | | |
| Urban | 53 | 26.1 |
| Rural | 150 | 73.9 |
| Religion | | |
| Christian | 119 | 58.6 |
| Muslim | 83 | 40.9 |
| Others | 1 | 0.5 |
| Occupation | | |
| Preschool | 12 | 5.9 |
| Student | 142 | 70 |
| Housewife | 10 | 4.9 |
| Others | 39 | 19.2 |
| Educational status | | |
| Preschool | 12 | 5.9 |
| Cannot read and write | 39 | 19.2 |
| Grade 1–8 | 122 | 60.1 |
| Grade 9–12 | 26 | 12.8 |
| Completed college or university | 4 | 2.0 |
| Marital status | | |
| Live with family | 109 | 53.7 |
| Live with relative | 16 | 7.9 |
| Single | 40 | 19.7 |
| Married | 34 | 16.7 |
| Others | 4 | 2 |

In this study, 142 (70%) and 61 (30%) of sexual assaults were rape and attempted rape, respectively. One hundred twelve (55.2%) of study participants were brought to the hospital by the police. The assailants used alcohol in 97 (47%) of the study participants. One hundred fifty (73.9%) of the assaults were committed during the daytime. Thirteen (6.4%) of the assaults were committed by multiple assailants. One hundred twenty-two (60.1%) of the study participants were assaulted once, while 81 (39.9%) were assaulted repeatedly. Ninety-two (45.3%) of the study participants were assaulted by acquaintances, followed by neighbors 63 (31%). Eighty-nine (43.8%) of the assaults were committed at the assailant's home (Table 2).

In this study, the time interval between the incident of sexual assault and presentation to the hospital ranged from a few hours to many days. Only 29 (36.5%) of the study participants present to the hospital within 72 h. Genital injuries were documented in 153 (75.4%) of the study participants. Of those study participants in whom the genital injuries were

Table 2. Circumstances of survivors of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

| Variables | Frequency | % |
|-----------------------------------|-----------|------|
| Type of sexual assault | | |
| Rape | 142 | 70 |
| Attempted rape | 61 | 30 |
| Brought to the hospital by | | |
| Her/his own | 17 | 8.4 |
| Her/his family | 71 | 35 |
| Police | 112 | 55.2 |
| Others | 3 | 1.5 |
| Alcohol used by the assailant | | |
| Yes | 97 | 47.8 |
| No | 106 | 52.2 |
| The time of assault occurred | | |
| Day | 150 | 73.9 |
| Night | 53 | 26.1 |
| Number of assailants | | |
| One | 190 | 93.6 |
| Multiple | 13 | 6.4 |
| Number of times assaulted | | |
| Once | 122 | 60.1 |
| Repeatedly | 81 | 39.9 |
| Relationship with assailant | | |
| Acquaintance | 92 | 45.3 |
| Neighbors | 63 | 31 |
| Relative | 18 | 8.9 |
| Stranger | 25 | 12.3 |
| Others | 5 | 2.5 |
| Place of assault | | |
| Her/his home | 27 | 13.3 |
| Assailant home | 89 | 43.8 |
| School | 3 | 1.5 |
| Garden | 29 | 14.3 |
| Bush/forest | 47 | 23.2 |
| Others | 8 | 3.9 |
| The first institution reported to | | |
| Health facility | 40 | 19.7 |
| Police | 158 | 77.8 |
| Others | 5 | 2.5 |

documented, 149 (97.4%) had a hymeneal tear. Only 35 (17.2%) of study participants had non-genital injuries. Bruises were the most common non-genital injuries (14 (40%)) (Table 3).

Regarding laboratory investigations performed, the pregnancy test was done for 168 (82.8%) study participants. From this, 12 (7.1%) were found to be pregnant. Of the total study participants tested for sexually transmitted infections (STIs), 1 (0.5%), 5 (7.1%), and 1 (0.5%) were found to be reactive to HIV, syphilis, and hepatitis, respectively. A wrist x-ray was done for all study participants. A vaginal or anal swab for sperm analysis was not done at all (Table 4).

Table 3. Injuries and time of presentation of survivors of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

| Variables | Frequency | % |
|--|-----------|------|
| Time of presentation to the hospital | | |
| 24 h | 29 | 14.3 |
| 25–72 h | 45 | 22.2 |
| 3.1–5 days | 24 | 11.3 |
| ≥6 days | 105 | 51.7 |
| Genital injuries | | |
| No | 50 | 24.6 |
| Yes | 153 | 75.4 |
| Types of genital injuries (n = 153) | | |
| Hymeneal tear | 149 | 97.4 |
| Perineal tear | 1 | 0.6 |
| RVF | 3 | 2.0 |
| Non-genital injuries | | |
| No | 168 | 82.8 |
| Yes | 35 | 17.2 |
| Types of non-genital injuries (n = 35) | | |
| Bruise | 14 | 40 |
| Abrasion | 13 | 37.1 |
| Laceration | 7 | 20 |
| Fracture | 1 | 2.9 |

Abbreviations: RVF: Rectovaginal fistula.

In this study, prophylaxis for HIV, 51 (68.9%), and other STIs, 70 (94.6%), were given. But prophylaxis for hepatitis virus was not given to eligible study participants. Emergency contraception was provided for 49 (50%) of eligible study participants. Surgical procedures were performed on 10 (4.9%) of the study participants. The majority, 197 (97%), of study participants obtained psychosocial support during their visit to the center. To process legal issues, a medical certificate was provided to 171 (84.7%) of the study participants. Thirty-four (16.7%) of the study participants were admitted to the center for at least 24 h to receive care and psychological support. Three (1.5%) of the total study participants were admitted to the intensive care unit. One (0.5%) patient was dead in the intensive care unit (Table 5).

Discussion

Sexual assault is the most underreported crime in the world.⁶ Data on types of sexual assault, interventions provided, and related complications are obtained from hospital-based studies.^{1,3,6} Accordingly, we analyzed a total of 203 cases of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

In this study, the age of study participants ranges from 3 to 28 years, with a mean age of 15.7 ± 4.7 years. The majority, 88.1%, of them were teenagers. In the study conducted at Gandhi Memorial Hospital, 73% of study participants were below 18 years.¹³ Another study at Saint Paul's Hospital

Table 4. Laboratory investigation performed for survivors of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

| Variables | Frequency | % |
|--|-----------|------|
| Pregnancy test from the urine | | |
| Yes | 168 | 82.8 |
| No | 35 | 17.2 |
| Pregnancy test result (n = 168) | | |
| Positive | 12 | 7.1 |
| Negative | 156 | 92.9 |
| Serology test for syphilis (VDRL) | | |
| Yes | 195 | 96.1 |
| No | 8 | 3.9 |
| VDRL test result (n = 195) | | |
| Reactive | 5 | 7.1 |
| Non-reactive | 190 | 92.9 |
| Serology test for HIV | | |
| Yes | 199 | 98 |
| Not | 4 | 2 |
| Serology test result for HIV (n = 199) | | |
| Reactive | 1 | 0.5 |
| Non-reactive | 198 | 99.5 |
| Serology test for hepatitis B virus (HBsAg) | | |
| Yes | 199 | 98 |
| No | 4 | 2 |
| Serology test result for hepatitis B virus (HBsAg) | | |
| Reactive | 1 | 0.5 |
| Non-reactive | 198 | 99.5 |
| Vaginal or anal swab for sperm analysis | | |
| Not done | 203 | 100 |
| Wrist x-ray for age estimation | | |
| Done | 203 | 100 |

VDRL: Venereal Disease Research Laboratory.

Millennium Medical College in Addis Ababa, Ethiopia, showed that 82.4% of study participants were teenagers.³ This might be explained by the fact that teenagers are particularly vulnerable because they are still dependent on older individuals and their relatives for most of their needs.¹⁴ Another possible reason for this observation is that children are less likely to offer resistance to their assailants.¹⁹

In Ethiopia, homosexuality is forbidden by law.¹⁶ However, in this study 4.4% of the survivors were males. This is similar to other studies at Saint Paul's Hospital Millennium Medical College in Addis Ababa, Ethiopia (4.3%),³ and Jimma University Medical Center (4%).¹⁶ This indicates how sexual assault is becoming a huge medicolegal issue in the study setting and Ethiopia in general.

In this study, most of the survivors, 85.2%, were assaulted by a person known to them (acquaintances, neighbors, and relatives). This is similar to a study conducted at Gandhi Memorial Hospital in Addis Ababa, Ethiopia (87.8%);¹³ Lagos State University Teaching Hospital, Nigeria (83.5%);¹⁵ and University Hospital Brazzaville, Congo (83%).¹⁷ But the

Table 5. Prophylaxis and care provided for survivors of sexual assault managed at Wollega University Referral Hospital from 5 January 2019 to 25 March 2022.

| Variables | Frequency | % |
|---|-----------|------|
| Emergency contraception provided (n = 98) | | |
| Yes | 49 | 50 |
| No | 49 | 50 |
| Post-exposure prophylaxis for HIV (n = 74) | | |
| Yes | 51 | 68.9 |
| No | 23 | 31.1 |
| Prophylaxis for other STIs (gonorrhoea, syphilis, chlamydia, trichomona) (n = 74) | | |
| Yes | 70 | 94.6 |
| No | 4 | 3.4 |
| Vaccine for hepatitis B virus (n = 74) | | |
| Not given | 74 | 100 |
| Major or minor surgical procedures performed | | |
| Yes | 10 | 4.9 |
| No | 193 | 95.1 |
| Psychosocial support | | |
| Given | 197 | 97 |
| Not given | 6 | 3 |
| Legal certificate for survivors (n = 202) | | |
| Given | 171 | 84.7 |
| Not given | 31 | 15.3 |
| Admitted to the center at least 24 h | | |
| Yes | 34 | 16.7 |
| No | 169 | 83.3 |
| Admission to the intensive care unit | | |
| Yes | 3 | 1.5 |
| No | 200 | 98.5 |
| Condition at discharge | | |
| Alive | 202 | 99.5 |
| Dead | 1 | 0.5 |

STIs: sexually transmitted infections.

current finding is higher than the study conducted in Kenya (76%).¹⁸ The psychological complications of sexual assault carried out by assailants known to survivors could result in more damaging outcomes than being assaulted by a stranger. Such incidents could also destroy the ability of survivors to trust people.^{15,19}

This study reveals that the time interval from the incident of sexual assault to presentation to the hospital ranges from a few hours to several days and weeks. Only 36.5% of the study participants present to the hospital within 72 h. More than half of the study participants, 51.7%, present to the hospital 5 days after the incident. Similar studies conducted in Addis Ababa, Ethiopia, showed that 28.3% of study participants present within 72 h of the incident.³ Another study conducted in Jima, Ethiopia, showed that 20.9% and 50% of study participants presented to the hospital within 72 h and after 5 days, respectively.¹⁶ The delayed presentation is because of the high percentage of children and teenagers (88.1%) in the current study who might not report until the

parents notice the condition. It can also be explained by the fear and embarrassment that they envisaged.¹³ This delayed presentation made the provision of emergency contraception and prophylaxis for STIs very difficult. Most health care interventions for survivors can only be delivered when the survivors present in the first 1–5 days of sexual assault to prevent complications.⁶ In this study, emergency contraception is only provided for 50% of eligible participants. Similarly, only 8% of study participants in Jima received emergency contraception.¹⁶

In this study, more than half of the survivors (55.2%) were brought to the hospital by police officers. This might be the reason why patients' presentation to the hospital within 72 h was only 36.5%. A similar study at Jimma University Medical Center showed that 72.2% of the survivors were brought to the hospital by police officers.¹⁶ This implies that survivors give priority to the legal aspect than the health-related complications of sexual assault.

In this study, genital injuries were documented in 75.4% of the study participants. This is similar to the study conducted in Jimma University Specialized Hospital (75.4%)⁶ and Addis Ababa (71.8%).³ This finding carries a higher risk of acquiring HIV and other STIs, particularly in the setting where patients came to the hospital late and routine prophylaxis is not provided.²⁰ Two percent of study participants with genital injuries had a rectovaginal fistula. This was not reported in similar studies.^{3,6,16}

Comprehensive management of sexual assault involves clinical care, provision of prophylaxis for STIs, psychosocial support, and collecting pieces of evidence for the medicolegal process.²¹ Provision of post-exposure prophylaxis to HIV-negative persons presenting within 72 h of sexual assault is recommended.⁶ In this study, prophylaxis for HIV was provided for 68.9% of study participants. It is also lower in similar other studies conducted in Ethiopia.^{3,21} Prophylaxis for other STIs (gonorrhoea, syphilis, chlamydia, and trichomonas) was provided for 94.6% of eligible participants in our study. But none of them received prophylaxis for hepatitis B virus.

In this study, the legal certificate was given to 84.7% of survivors. This is higher than the study conducted in Saint Paul's Hospital Millennium Medical College in Addis Ababa, Ethiopia (45.5%)³ but lower than the study done in Jimma University Medical Center (98.9%) (16). A legal certificate helps the survivors to get an appropriate legal service which discourages the act of sexual assault.

Unlike other hospital-based studies,^{3,6,13,17} in this study there was a patient who died from complications (genital and non-genital injuries) of sexual assault. There were also cases with severe forms of physical injuries, including rectovaginal fistula and fracture.

Limitations

In this study, the sample size was not calculated. The other limitation is it is that this study is hospital-based, making

generalization difficult. There could also be recall bias from survivors who were children. The sensitivity of the issue could result in bias. In addition, the psychiatric complications were not addressed.

Conclusion

In this study, children and adolescent girls were the most vulnerable group and survivors' presentation to the hospital was delayed. They presented to the hospital with variable complications, including minor genital and/or extra-genital injuries, sexually transmitted infections, unwanted pregnancy, fractures, and multiple organ failures leading to death. Therefore, the authors recommend all concerned stakeholders work on the prevention of sexual assault in the study area. Legal protection for these survivors and students should also be strengthened. It is also recommended to evaluate the execution of existing national and international policies and programs toward sexual assault to develop contextual policies and guidelines.

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Author contributions

T.T., R.O., and A.G. were involved in all components of this research, including conception, design, and supervision of data collection; data analysis; and write-up of the manuscript. All authors read and approved the final manuscript.

Availability of data and materials

The data sets are available from the corresponding author on a reasonable request.

Declaration of conflicting interests

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

Ethical considerations

Ethical clearance was obtained from the Research Ethics Review Committee of Wollega University with the number WU/RD/571/2014. The letter was written to Wollega University Referral Hospital. The hospital was informed of the objectives of the study and permission to get access to patient documents. All methods were performed per the relevant guidelines and regulations.

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Informed consent

In this study, the need for written informed consent was waived by the Ethical committee due to the retrospective nature of the study.

Trial registration

Not applicable

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Supplemental material

Supplemental material for this article is available online.

References

1. Wakgari N. Magnitude, complication and factors associated with rape among women visited gynecologic outpatient departments of selected hospital in Tigray Region. *Res Rev J Comp Biol* 2017; 6: 1–8.
2. United Nations Development Fund for Women. Violence against women & millennium development goals, 2010, http://www.unifem.org/gender_issues/violence_against_women/
3. Tolu LB and Gudu W. Sexual assault cases at a tertiary referral hospital in urban Ethiopia: one-year retrospective review. *PLoS ONE* 2020; 15(12): e0243377.
4. Gezahegn K, Semagn S and Shaka MF. Prevalence of sexual violence and its associated factors among housemaids attending evening schools in urban settings of Gedeo zone, Southern Ethiopia: a school based cross sectional study. *PLoS ONE* 2021; 16(10): e0258953.
5. Central Statistical Agency (CSA) [Ethiopia] and ICF. *Ethiopian demography and health survey, 2016*. Addis Ababa, Ethiopia; Rockville, MD: CSA and ICF, 2016.
6. Amenu D and Hiko D. Sexual assault: pattern and related complications among cases managed in Jimma University Specialized Hospital. *Ethiop J Health Sci* 2014; 24(1): 3–14.
7. The American College of Obstetricians and Gynecologist. ACOG committee opinion. *Obstet Gynecol* 2019; 133(777): e296–e302.
8. Sexual Offences Act 2003, http://www.legislation.gov.uk/ukpga/2003/42/pdfs/ukpga_20030042_en.pdf
9. Baiocchi M, Friedberg R, Rosenman E, et al. Prevalence and risk factors for sexual assault among class 6 female students in unplanned settlements of Nairobi, Kenya: baseline analysis from the IMPower & sources of strength cluster randomized controlled trial. *PLoS ONE* 2019; 6: e0213359.
10. Shimekaw B, Megabiaw B and Alamrew Z. Prevalence and associated factors of sexual violence among private college female students in Bahir Dar city, North Western Ethiopia. *Health* 2013; 5(6): 1069–1075.
11. Smith SG, Zhang X, Basile KC, et al. *The National intimate partner and sexual violence survey: 2015 data brief – updated release*. Atlanta, GA: Centers for Disease Control and Prevention, 2015.
12. Hassen SM and Mohammed BH. Sexual violence and associated factors among female students at Debre Berhan University, Ethiopia. *Cureus* 2021; 13(7): e16189.
13. Assabu G, Tefera M, Abebe A, et al. The magnitude of sexual abuse and its physical effects among female children. *Ethiop J Health Dev* 2019; 33(3), <https://www.ajol.info/index.php/ejhd/article/view/190127>

14. Ohihoin AG, Ezechi OC, Ifemeje AA, et al. The pattern of sexual assault in people presenting to a gynaecological unit of a tertiary hospital in South-West Nigeria. *Ann Med Health Sci Res* 2018; 8: 244–247.
15. Sodipo OO, Adedokun A, Adejumo AO, et al. The pattern and characteristics of sexual assault perpetrators and survivors managed at a sexual assault referral centre in Lagos. *Afr J Prm Health Care Fam Med* 2018; 10(1): a1727.
16. Siraneh Y, Taye A, Asefa F, et al. Sexual assault profile in Jimma University Medical Center, Southwest Ethiopia. *Adolesc Health Med Ther* 2021; 12: 17–25.
17. Eouani LME, Mokoko JC, Itoua C, et al. Sexual assault: epidemiological profile and clinical aspects at the Brazzaville University Hospital Center. *Open J Obst Gynecol* 2020; 10: 326–332.
18. Rockowitz S, Stevens LM, Rockey JC, et al. Patterns of sexual violence against adults and children during the COVID-19 pandemic in Kenya: a prospective cross-sectional study. *BMJ Open* 2021; 11: e048636.
19. Al-Azad MA, Raman Z, Ahmad M, et al. Socio-demographic characteristics of alleged sexual assault (rape) cases in Dhaka city. *J Armed Forces Med Coll Bangladesh* 2012; 7(2): 21.
20. FMOH. National guideline for the management of survivors of sexual assault in Ethiopia. (2009).
21. WHO-UNHCR. *Clinical management of rape survivors: developing protocols for use with refugees and internally displaced persons*. Revised ed. Geneva: WHO Library Publication Data, 2004.