

Magnitude, Complication and Factors Associated with Rape Among Women Visited Gynecologic Outpatient Departments of Selected Hospital in Tigray Region, Northern Ethiopia, 2016

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Abstract

Background: Rape is a form of sexual violence, which is associated with long and short-term sexual, reproductive, mental and social problems. Although the problem is believed to be common, studies from Ethiopia are scanty.

Objective: This study was aimed to determine magnitude, complications and predictors of rape among gynecologic outpatient department visitors in Tigray region.

Methods: A health institution based cross-sectional study was employed among gynecologic outpatient visitors from September 2012 to 2015. Among a total of 3084 female patients attended gynecologic outpatient department from September 2012 to 2015, 918 were selected using systematic sampling technique. Semi-structured questionnaires and check list adapted from sexual violence medical Evaluation certificate format was used to collect information from records in addition to patient interview. Data was entered and cleaned using Epidata and analyzed using SPSS version 21 software package. Bivariate and multivariate logistic regression were performed to assess association between dependent and independent variables with 95% CI and p-value less than 0.05 was set for association. **Results:** The study revealed that the current rate of rape among gynecologic outpatient visitor is 12.7 %. Significant number of victims was assessed for life threatening rape complications like first and second degree vaginal tear. Age (AOR=2.01, 95%CI = 1.12–4.85), Educational status (AOR=4.94, 95% CI= 1.15–21.18) and current alcohol consumption (AOR=2.38, 95%CI= 1.04–6.25) (Table 4) were significant predictors of rape victimization.

Conclusion: This study found that rape is still a common problem among gynecologic outpatient in general and adolescent's elementary school female students in particularly. Age, educational status and current alcohol consumption were significant predictors of rape victimization.

Keywords: Magnitude, complications, gynecologic patients, life threatening rape complications, bio-statistical analysis

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INTRODUCTION

Rape is a form of sexual violence against women which is characterized by any form of sexual act on the women without their Consents through the use of force, threats or fraud [1].

Globally lifetime prevalence of gender-based violence in general against women has been reported to be a staggering about 33 % of women of which rape is the commonest and

affects over 60% of it. On the other hand worldwide at least one in three women has been sexually coerced in her lifetime [2, 3].

There is a substantial variation in the prevalence of rape across developing countries, ranging from 3.3% in South Asia, to 21% in sub-Saharan Africa [2]. In Ethiopia, time and again at present, it's common to hear about sexual violence. With each passing year, a wild sexual crime has been practiced to

women. These days in Ethiopia, men are not ashamed of nor fear raping even children below the age of two, also women are susceptible to the rapists not only at night even in the middle of the day” [4]. Three out of 10 girls in Ethiopia will be raped at least once before they are 18 years old. Life time prevalence of rape among some population segments reaches as high as 43% in some areas of the country.

On the other hand repetitive rape victimization among girls have been reported to be 26% and raped first time sex is common [5–7]. These figures are probably lower than the actual number of cases, given that there is cultural tolerance of sexual violence against girls and women in Ethiopia. Abduction and early marriage, always followed by rape are the norms in some parts of our society. Kidnapping and the concomitant raping of a woman, as one way of acquiring a wife, is a common occurrence [6].

Rape is associated with long and short-term sexual, reproductive, mental and social problems [8]. Furthermore, it is a cause for divorce and violation of human rights [9]. Broad range of physical injuries ranging from minor abrasion to life threatening head injuries are recognized among different rape victims [10]. About 30% of victims had signs of physical injury and the most common were on the head and neck, as was found in 77.8% of the victims. In Ethiopia severe genital anal injury like second and third degree tear was found in 14.4% of rape victims. Survivors of sexual assault are vulnerable to a number of sexual and reproductive health problems, particularly HIV infection and sexually transmitted infection (STIs) [11].

The potential causes of rape are varied and controversial, because of personal and cultural beliefs as well as economic status. In Ethiopia's case there is a range of other complex contributing factors, such as culture and tradition, poverty, inequality in gender power relations and the anger and sadism of the rapists [12]. Therefore the fundamental objective of this study is to investigate the rate, associated factor and complication of rape among women visited gynecologic outpatient department of hospitals in Tigray region

METHODS

A hospital based cross-sectional study was conducted among gynecologic outpatient department visitors women from September 1–December 30, 2015 in selected hospitals of Tigray region. Tigray is located in Northern Ethiopia and all hospitals found in Tigray region (Ayder Comprehensive Hospital, Maichew, Adwa, Axum and Shire Hospitals) were incorporated in to the study. The hospitals are commenced rendering its referral and non-referral services to population in its catchment areas of the Tigray, Afar and South-eastern parts of the Amhara Regional States. It provides a broad range of medical services to both in and out patients of all age groups. Among the hospitals, Ayder comprehensive hospital can be designated as the most advanced medical facility, by all accounts, in the northern part of the country and that it stands as the second largest hospital in the nation. The region has 106 physicians, 24 midwives, 356 nurses and 383 health officers.

The sample size was determined using a single population proportion formula considering the following assumption 50 % proportion of female rape cases among gynecologic outpatient department visitors, 5% level of significance ($\alpha = 0.05$). The final sample size was adjusted for a non-response rate of 10% and the total sample arrived at was 1067 cases. Systematic sampling technique was used to select individual women in to the study. The total sample size calculated for the study, 1067 participants, were distributed to the five hospitals in the region proportionally based on the estimated number of case flows in each hospitals. The first case to be included in the study was selected by lottery method from the first 5 visitors, and then every 5th case was included in the study.

Data was collected by five BSc midwives working in the respective hospitals using semi structured check list adapted from sexual violence medical evaluation certificate format and questionnaires to collect information from history, physical examination, laboratory findings and the women at the time of Presentation. Data analysis was performed using SPSS version 21. Variables reaching a p-value of 0.2 on bivariate analysis were

included in multiple logistic regression analysis and p-values of less than 0.05 were taken to represent significance. The degree of association between the independent and dependent variables was analysed using odds ratios with 95% confidence intervals. Ethical clearance was obtained from the Institutional Review Board (IRB) of Mekelle University, College of Health Sciences.

RESULTS

Socio-Demographic Characteristics

Among the total 1067 sampled cases of gynaecologic outpatient ward visitors, 918 cases were responded to the questionnaire, giving a response rate of 86 %. The mean age of the study participants was 19.5 years with the standard deviation of 8.5 years. A majority, 591(64.4%) of the study participants were from urban and 692(83%). On the other hand singles were comprising about half of the respondents (53.2%) (Table 1).

Rate of Rape and its Characteristics

Among a total of 918 interviewed gynecologic outpatient department visitors, 117 were rape cases, making rate of rape among gynecologic outpatient visitors to be 12.7%. Sixteen (13.7 %), of the current rate of rape was among under fifteen and 15(12.8 %) of rape was happened in first time sex. Out of the total cases, 89(76.1 %) of the victims were reportedly raped by unknown rapist (Table 2).

Complication of Rape among Victims

The first time presentation to hospital after the incident of rape ranges from 1 - 35 days. About 85% of victims were visited health institution mainly for medicolegal (forensic) evidence. Ninety one (77.8 %) of cases was diagnosed for extra genital injuries for which bruising is the common one. About 5.4% of victims were positive for pregnancy test and 9(8.5%) of them were positive for one or more sexually transmitted infections. All victims were negative for HIV test, except one previous known HIV patients (Table 3). It has been confirmed from medicolegal physical examination result review that 59(54.4%) of victims have genito-anal injury associated with rape. Vaginal mucosal laceration first degree tear and hymeneal tear were among most

commonly diagnosed genito-anal injuries associated with rape (Figure 1).

Table 1: Socio-Demographic Characteristics of Patients visited Gynecologic Outpatient Departments (n=918) from 2012–2015, Tigray Region, Northern Ethiopia, 2016.

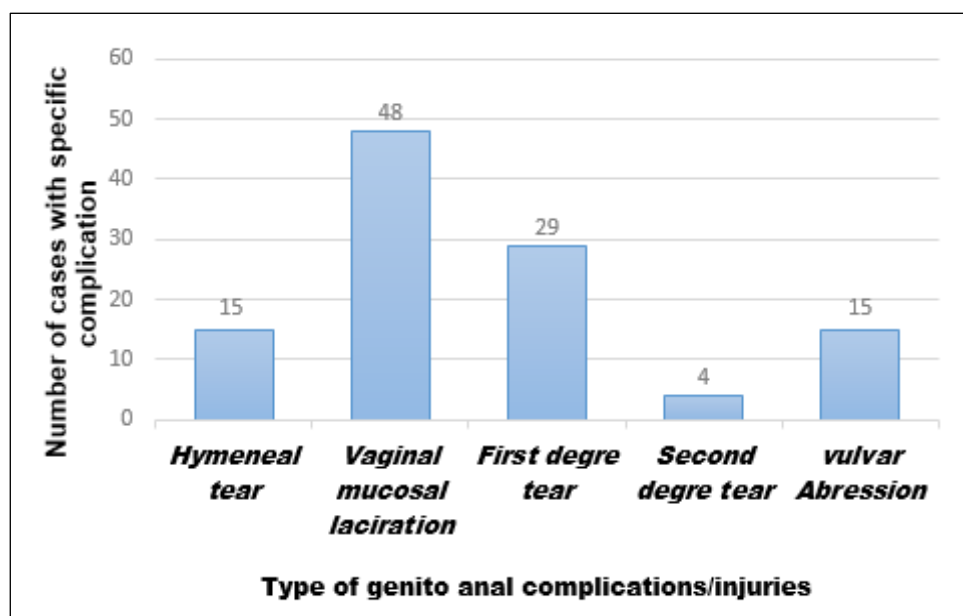
Variable	Frequency (Percent)
Age	
8–17	198(21.6)
18–27	549(59.8)
>28	171(18.9)
Residence	
Urban	591(64.4)
Rural	327(35.6)
Region	
Tigray	789(86.0)
Other	129(14.0)
Marital status	
Un Married	486(52.9)
Ever Married	432(47.1)
Education	
No education	156(17.0)
Elementary	698(76.0)
High school and above	64(7.0)
Occupation	
Un employed	427(46.5)
Student	217(23.6)
Private	173(18.8)
Government	101(11.1)

Table 2: Distribution of Rape Characteristics Among Rape Cases of Gynecologic Outpatient Department Visitors (n=117) from 2012–2015, Tigray Region, Northern Ethiopia, 2016.

Variables	Frequency (%)
Rape case	
Yes	117(12.7)
No	801(87.3)
Previous history	
Yes	21(17.9)
No	96(82.1)
First time sex	
Yes	15(12.8)
No	102(87.2)
Rapist	
Partner	11(9.4%)
Don't know him	89(76.1)
Other	17(14.5)
Place	
Bush	36(30.7)
Hotel	72(61.5)
Home	9(7.8)
Number	
One	93(79.5)
Two	6(5.1)
Three	18(15.4)
Emergency contraceptive used	
Yes	6(5.1)
No	111(94.9)
Condom	
Yes	3(2.6)
No	114(97.4)

Table 3: Complication of Rape Victims (n=117) Managed at Tigray Region Hospitals from 2012–2015, Tigray Region, Northern Ethiopia, 2016.

Variable	Frequency (percent)
First Time Health Institution Visit	
Within a day	2(1.7)
Within 2–6 days	31(26.5)
Within 7 and above days	84(71.8)
Genito-anal Injury	
Yes	59(50.4)
No	58(49.6)
Extra Genito-anal Injury	
Yes	91(77.8)
No	26(22.2)
Type of Extra Genital Injury (n=91)	
Bruises	49(53.9)
Abrasions	39(42.9)
Bites and Echymoses	3(3.2)
Psychosocial Injury	
Yes	25(21.4)
No	92(78.6)
Pregnancy	
Yes	6(5.13)
No	111(94.87)
Sexually Transmitted Infection	
Yes	28(24.00)
No	89(78.10)
Primary Purpose of Health Institution Visit	
Health concern	31(34.1)
Medicolegal	60(65.9)

**Fig. 1:** Genito-anal Complications/Injuries of Rape Victims (n=117) Managed at Tigray Region Hospitals from 2012–2015, Northern Ethiopia, 2016.**Factors Associated with Rape**

Bivariate and multivariate analysis was computed to determine the association between the independent variables and rape victimization. After controlling the effect of

other variables; only Age, educational status and alcohol consumption by victims continued to be significantly associated with rape victimization (P-values<0.05).

Table 4: Bivariate and Multivariate Analysis of Factors Associated with Rape Among Female Visited Gynecologic Outpatient Department from 2012–2015, Hospitals in Tigray, Northern Ethiopia, 2016.

Variables	Rape		COR(95% CI)	AOR(95%CI)
	No	Yes		
Age				
8–17	121	77	0.09(0.01–1.05)	
18–27	517	28	3.17(1.17 – 6.02)	2.01(1.12–4.85)
>28	163	12	1	1
Region				
Tigray	697	107	0.63(0.02–0.98)	
Other	104	10	1*	
Marital Status				
Married	411	21	1	
Un married	390	96	4.82(1.29–7.05)	
Physical Disability				
No	779	108	1	
Yes	22	9	2.95(1.05–3.98)	
Education				
No Formal Education	152	8	1*	1
Elementary	610	88	2.74(1.79–13.81)	4.94(1.15–21.18)
High School and Above	39	21	3.75(2.01–6.01)	3.29(1.25–8.69)
Smoking				
No	700	38	1	
Yes	101	79	14.41(8.91–21.09)	
Previous History of STI				
No	589	81	1	
Yes	212	36	1.23(1.08–1.89)	
Multiple Sexual Partner				
No	679	89	1	
Yes	128	22	1.31(1.10–1.69)	
Alcohol Consumption				
No	549	23	1	
Yes	168	94	13.37(9.21–16.67)	2.38(1.04–6.25)
Previous History of Rape				
No	740	88	1	
Yes	61	29	3.40(2.02–6.11)	

Teenagers females are 2 times more likely to be victims of rape when compared with females who were in their twenties (AOR=2.01, 95%CI = 1.12–4.85). On the other hand females who were attending elementary school are about 5 times more likely to be a victim of rape when compared with those who have no formal education (AOR=4.94, 95% CI= 1.15–21.18).

Odds of rape is higher among alcohol consumer female when compared with those of females who were not alcohol consumer at all (AOR=2.38, 95%CI= 1.04–6.25) (Table 4).

DISCUSSION

This study revealed that rape among gynecologic outpatient visitors is 12.7%. The current finding is comparable with the result of

study conducted in Ngo clinic, Addis Ababa, and Bahir-Dar where rate of rape among Antenatal clinic visitors and street girl was 18.3%, 11.4% respectively [7, 13]. Rate of rape in this segment of population is also similar to prevalence of rape among adolescent female high school students in Arbaminch town where the prevalence of rape was 11% [14]. However, the current finding is lower when compared to a survey conducted among high school students in Nekemt town where the prevalence of completed rape was 20% [15]. The possible explanation for such difference is due to difference in the study population. It has been well established that date rape is a frequent occurrence in college students specifically and student in generally are among potentially risky population segments [16, 17]. On the other hand rape is a

cultural taboo in Ethiopia, therefore self-initiated report to police or health institution by victim is less likely, this may be other possible reason why rate of rape is lower among current study population [17]. In contrary, a nationally representative survey in Swaziland, found that teenagers rate of rape in 2009 was 33.2% [11]. The difference is not due to few percentage of rape crime in Ethiopia, rather poor rape disclosure and reporting system. Rape victims are vulnerable to a number of sexual and reproductive health problems, ranging from sexually transmitted infection through unwanted pregnancy to life treating physical injuries [18].

In this study 91(77.8%) of rape victims faced Physical injuries in general and 59(50.4%) of victims faced genito-anal injuries in particular. Among genito-anal injuries, vaginal mucosal laceration and first degree tear was the commonest. The current finding is supported by study conducted in Adigrat where about 77.8 % of the victims had signs of physical injury and about 41% of the victims had genital findings. But the current rate of fresh hymenal tear (12.8%) is lower when compared with findings from Adigrat, which accounted for 26.5% [10]. This deference is mainly due to difference in residence of the population of study. In current study only about 64% is urban resident, while in previous study a majority (91.7%) of the cases was reported from urban areas. Therefore it is obvious that there is higher probability of maintaining virginity in later age because of strong cultural conservation in rural part of Ethiopia than that of urban

From this cross sectional study it was found that female age is one of the significant predictors of rape victimization among gynecologic outpatient department visitors. Teenagers female were 2 times more likely at risk of rape when compared with those who were in their twenties (AOR=2.01, 95%CI= 1.12–4.85). The higher rape victimization rates among younger women are not unique to the current study area; there are also researches with the same findings from elsewhere in Ethiopia and other developing countries. According to the study done in Nekemt, Ethiopia, a younger women were about 8 times more likely to experience rape

victimization than their at least three years elder [15]. The current finding is also supported by WHO report which indicated that individual factors like younger age, increases female risk of rape victimization [19–21].

The finding of this study also shows, Educational status is significantly associated with rape victimization. Those of females who were attending elementary school are 5 times more likely at risk of rape when compared with those who have no formal education (AOR = 4.94, 95%CI = 1.15–21.182). This finding is comparable with the study conducted in Nigeria, which showed female students were 1.77 times at risk of rape victimization than their married counterparts [22]. The association between education and rape victimization in the indexed research looks like paradoxing. It is obvious that modern education is a universally accepted strategy in preventing risky health behavior in general. Therefore the possible explanation why elementary school female students are at increased risk is probably due to that many of these elementary students were off-campus and some of them used to walk about two hours to arrive at school, so that unlike that of uneducated or high school student, elementary students have more chance to be exposed to perpetrators on their way to school in the nearby jungle.

Another finding of the present study is that current alcohol consumption is an important predictor of rape victimization. Woman who are currently consuming alcohol is 2 times more likely at risk of rape when compared to non-alcohol consumer (AOR= 2.01, 95%CI= 1.04–6.25). This result is consistent with the findings from Adigrat town in Tigray, where women with recent alcohol consumption were found at increased risk of rape [10]. The current finding is also supported by a study done in South Africa which showed that alcohol consumption was found one of the important factors of rape victimization [23].

Explanation for this may be that alcohol consumption is a double sharp sword that alcohol interfered with both rapist and victims ability to negotiate safe sex. On the other hand for women who are under the influence of alcohol, it is difficult to avoid men's coercive

sexual advances [24]. Generally, it was well established that alcohol consumption is health and social problem of young people, which increases their vulnerability to being used by other persons sexually which is receiving increased attention nowadays [25].

CONCLUSION

The study revealed that magnitude of rape victimization is unacceptably high among gynecological outpatient department visitor. Even though non genito-anal rape related trauma is common, significant number of victims was assessed for severe rape complications like vaginal mucosal laceration, first and second degree vaginal tear. Age of the women, educational status and current alcohol consumption were important predictor's of rape victimization.

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTIONS

Hinsermu wrote the proposal, participated in data collection, analyzed the data and drafted the paper. Zelalem B, Hussein N and Negash W have approved the proposal with some revisions, participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

ACKNOWLEDGEMENTS

We are very grateful to the Mekelle University for the approval of the ethical clearance and their technical and financial support of this study.

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Cite this Article

Hinsermu Bayu, Hussein Namo, Zelalem Bekele *et al.* Magnitude, Complication and Factors Associated with Rape Among Women Visited Gynecologic Outpatient Departments of Selected Hospital in Tigray Region, Northern Ethiopia, 2016. *Research & Reviews: Journal of Computational Biology*. 2017; 6(1):