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Brief Report

The epidemiological assessment of sexual assault

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Abstract

Introduction: The present study was conducted to determine the epidemiological characteristics of rape victims and rapists.

Materials and Methods: This cross-sectional study was conducted on 68 examined cases of sexual violence in Shiraz Legal Medicine Organization during 2013-2014. Victims were referred from the judicial authority or deputy. The file information of referred cases was extracted without a name and a unique code for each file.

Results: All cases in this study were female victims. The mean age of the victims was 21.39 ± 6.11 years. The majority of cases were single (94%). Of all cases in the study, 63.2% and 30.9% had middle and low socioeconomic status, respectively. Someone's home was the most frequent place of rape (54.4%). In 58.8% of cases, victims and assailants knew each other. There was a single perpetrator (59.7%) most of the time, but in 19.4% and 11.8%, respectively, there were two and three perpetrators concurrent. In 76.5% of cases, victims mentioned that they were under verbal threats, 8.8% were under gun threats, and 28% were under knife threats. Completed rape happened in most of the victims (98.5%).

Conclusion: The results of this study emphasized the priority of sexual assaults prevention and increasing public awareness of these violations as a legitimate public health issue.

Keywords: Forensic medicine, Rape, Sexual assault, Victim

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Introduction

Sexual violence in women is a serious public health problem and violates women's human rights. It has short- and long-term sequels on women's physical, behavioral, sexual, and reproductive health (1). A 2013 analysis managed by World Health Organization (WHO) demonstrated that about 1 in 3 (35%) of women worldwide have experienced physical and/or sexual violence in their lifetime. The rate of violence against women in different parts of the world based on World Health Organization region classification is as follows: Eastern Mediterranean countries (37%), African countries (36.3%), American countries (29.8%), European countries (25.4%), Western Pacific

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(24.6%) and other high-income countries (23.2%) (2). The side effects of violence against women do not just affect the women, but this issue imposes serious injury to all family foundations and all bulk of the society (3).

According to WHO definition, rape or sexual violence is described as any unwanted and hustle sex act including vaginal or penile penetration, even if lightweight by any person regardless of his or her relation and familiarity. Attempted rape is defined as the effort and purpose of doing this act.

Also, gang rape means rape by more than one perpetrator (4). Rape and sexual assault in many countries, Iran, is a hidden phenomenon. There is little academic research, formal statistics, or reports in mass media about sexual violence due to severe censorship in Iranian society.

However, even some sexual assaults such as verbal abuse or rudeness, especially on behalf of spouse, father, or brother, become accepted by society and even women. Increasing the consciousness and understanding of the existing situation and risk factors associated with a higher risk of sexual violence can raise awareness about sexual assault and lead to better prevention programs and strategies.

Data on prevalence and patterns of assault can also be an essential guide to engage policy-makers in this important issue and address the public health impact and costs of sexual violence. Hence, this study was designed to assess the epidemiological factors associated with rape and sexual violence.

Materials and Methods

The study was conducted on all cases of sexual violence who were referred from judicial authority to Shiraz Legal Medicine Organization in 2015. All examination was performed in Shiraz Legal Medicine Organization by expert physicians with special training in forensic medicine. All-female patients with a chief complaint of sexual assault were eligible for this study. Patients who refused genital examination were excluded.

The purpose of the study was explained to patients, and all who had verbal consent to participate were included in the study. Unique codes were allocated for each patient in checklists, and the checklists were completed without a name to keep the information confidential. The required information for the study from the patient's files was obtained through their physician and not by researchers. The research center of the Legal Medicine Organization approved this study.

The checklist included demographic information of women such as age, educational level, occupation, marital status, smoking cigarettes or drinking alcohol, and/or history of substance addiction.

The same information was collected about perpetrators by asking women and not by themselves. In addition, for each case, the following data were reported: time, place and frequency of sexual assault, the time between sexual assault and examination, attempted or completed rape, verbal or weapon threats, type of rape, condom use, anal, vaginal or any other injuries, number of perpetrators, the relationship between victim and perpetrator and the same sociodemographic information about perpetrator if available.

Data analysis was carried out using SPSS. Participants' characteristics were presented as exact amount and percentage or mean and standard deviation (SD). Proper statistical methods and tests such as Chi-square, Man-Whitney, and Kruskal-Wallis test were used for data analysis. In all calculations, $P< 0.05$ was considered statistically significant.

Results

Sixty-eight cases were presented during the study period. All cases in this study were female victims. The mean age of the victims was 21.39 + 6.11 years (range 4-42 years) and in perpetrators was 25.31 + 5.17 years (range 17-40 years).

A summary of victims' and perpetrators' characteristics is presented in Table 1. Some of the variables were incomplete in victims and perpetrators.

The results of the legal physician's physical examination are demonstrated in Table 2. In this study, 58.8% of women reported being raped by one person, 19.1% by two persons, and 22% by three or more perpetrators.

Other rape characteristics such as threatening the victim by perpetrator, location of the rape, and familiar or strangers being the perpetrator and the victim were demonstrated in Table 3.

Table1. Demographic characteristics of victims and perpetrators' characteristics

Variables		Victim N (%)	Perpetrator N (%)
Marital status	Single	63 (94)	39 (76.5)
	Married	2 (3)	12 (23.5)
	Divorced	2 (3)	_
Socioeconomic status	High	4 (5.9)	_
	Middle	43 (63.2)	27 (41.5)
	Low	21 (30.9)	38 (58.5)
Educational level	Under diploma	16 (21.1)	8 (18.2)
	Diploma	12 (17.6)	16 (36.4)
	Bachelor and upper	5 (7.4)	5 (15.2)
Substance/alcohol use by victims and/or perpetrators	Alcohol	18 (40.9)	19 (32.2)
	Drug	7 (15.9)	6 (10.2)
	Both	1 (2.3)	1 (1.7)
	None	18 (40.9)	33 (55.9)
Age groups	Under 18	21 (30.9)	3 (4.4)
	18-30 years old	42 (61.8)	55 (80.9)
	30-40 years old	5 (7.4)	10 (14.7)
Age (mean + SD)		21.39 + 6.11	25.31 + 5.17

Table 2. The results of the forensic examination

Variables		N (%)
Attempted rape		1 (1.5%)
Completed rape		64 (98.5%)
Type of rape	Anal	19 (28.8%)
	Vaginal	30 (45.5%)
	Anal and vaginal	17 (25.8%)
Condom use	Yes	8 (13.3%)
	No	52 (86.7%)
Ejaculation	Yes	55 (87.3%)
	No	8 (12.7%)
Other injuries	Acute anal injury	12 (20.7%)
	Chronic anal injury	18 (31%)
	Acute injuries in other part of the body	16 (23.5%)

Table 3. Other rape condition (threatening, location, familiar or stranger perpetrator)

Characteristics		N (%)
Perpetrator threat	Verbal treats	52 (76.5%)
	Gun treats	6 (8.8%)
	Knife treats	19 (28%)
Location of rape	Private setting	37 (54.4%)
	Public setting	30 (44.1%)
Victim and perpetrator were familiar	Yes	40 (58.8%)
	No	26 (38.2%)

Discussion

The present study showed that more than half of victims were 18-30 years old (61.8%, n=42). However, over one-third of the victims (30.9%, n=21) were younger than age 18. Similarly, another study conducted in Swaziland on a nationally representative sample of 1242 girls and women showed that 33.2% of victims

reported being raped before their 18th birthday (5). These findings are considered as evidence demonstrated that early victimization in childhood or adolescence increases the risk for subsequent victimization in adulthood (6). Another study showed a strong association between child/adolescent sexual abuse and mental health complication, including 14-40 times higher suicide risk and 38-88 times higher fatal poisoning in these people in adulthood (7).

In this study, the educational level and socioeconomic status had a reverse relationship with rape. Most of victims were in middle and low socioeconomic status and reported their level of education as junior high or high school diplomas. In the perpetrators' group, most of them had high school and diploma education and were in low socioeconomic status, according to the victim's report. The evidence suggests an inverted U-shape relationship between women's educational level and physical violence, with higher educational levels leading to a greater risk of violence to a certain level. After that, the educational level and empowerment become a protective factor (8,9). The results of this study cannot demonstrate that this U-shape relationship may be due to the sample size. This study concluded that substance and alcohol have a leading role in sexual assaults, as most victims and perpetrators were influenced by an illegal drug or/and alcohol at the time of violence. These findings agree with another study that demonstrated that 66.6% of rapists and 19.8% of female victims and 38.3% of the male victims used substance and/or alcohol at times of the rape (10). Use of alcohol and other illegal drugs increases the vulnerability to sexual assaults. The consumer women cannot defend themselves by recognizing and effectively confronting warning signs. Drinking alcohol due to the effect of reducing inhibitions, impaired judgment, and impairing the ability to interpret signals may also situate women in positions where the risk of sexual violence is considerable (11).

Most of the victims described were to be verbally threatened, and in 37%, the perpetrators used a weapon, including a gun or knife, to threaten to harm or kill them. In addition, 23.5% of victims sustained physically non-genital harms, including scratches, bruises, and abrasion. Few cases had more severe injuries, such as a nasal fracture, knee inflammation, and finger cutting.

In most of the violence, there was a single perpetrator, but in 40.3% (n=27), gang rape occurred, and 2-7 perpetrators raped a victim. The majority of cases were assaulted by someone who had a regular relationship. However, in 38.2% of cases, the violence was done by a stranger, and most of them were taxi drivers. South Africa surveillance study demonstrated that one-third of the rape cases in this country experienced gang rapes (12). National data on sexual violence in the United States found that more than one perpetrator did about 10% of rape. Most of this violence is carried out by a first-time acquaintance, which was similarly observed in this study (13). On the contrary, in South Africa, boyfriends are usually incriminated in gang rapes (12).

The physical examination results showed that vaginal assaults occurred in 45.5% of cases. In 28.8% anal penetration was reported. Both anal and vaginal rape was proved in 25.8% of victims. In most cases, the Perpetrators did not use condom and ejaculation had occurred. These points are considerable because of the increased risk of sexually transmitted diseases and HIV.

This study has some limitations. First, the number of victims and sexual assaults and the significance of the problem area are so much higher in our setting. Many women do not report this kind of violence due to blaming, fearing, or shaming, and this large group of victims was missed in this study. Also, the proportion of women who refer to legal medicine organizations due to sexual assault is relatively tiny. The number of rapes was reported to police or legal organizations may be viewed as an iceberg floating in the water (14). Second, the legal medicine organization physicians trusted to self-expression the victims and did not attempt to validate patients' responses such as the relationship between perpetrators and victims, verbal or weapon threats, and use of substances or alcohol. Third, in this study, we cannot assess the sexual violence by intimate partners. This kind of violence is neglected in our society because of cultural constraints in this issue. In return, in the WHO multi-country study, the lifetime prevalence of sexual partner violence ranged from 6% in Japan to 59% in Ethiopia (15). But there have been few numbers of studies in our region assessing this problem. Considering the current cultural limitations, addressing this

issue and highlighting its dark spots can help reduce the burden of the problem over time.

Conclusion

This study showed that females and males in low socioeconomic status were at higher risk of sexual violence. Most of the perpetrators were familiar with victims. Almost in all cases, completed rape happened, and the assaults did not use the condom most of the time, and this issue is essential due to sexual transmitted diseases. The results of this study emphasized the priority of sexual assaults prevention and increasing public awareness of these violations as a legitimate public health issue.

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