Austin Journal of Forensic Science and Criminology

Open Access

Austin Publishing Group

Research Article

Forensic Clinical Examination of Victims of Sexual Violence: A Study from Greece

Katsos K[1]*, Sakelliadis E[1], Zorba E[1], Tsitsika A[2], Papadodima S[1] and Spiliopoulou C[1]

[1]Department of Forensic Medicine and Toxicology, National and Kapodistrian University of Athens, Greece

[2]Adolescent Health Unit, Second Department of Pediatrics, "P. and A. Kyriakou" Athens Children's Hospital, National and Kapodistrian University of Athens, Greece

***Corresponding author:** Katsos K, Department of Forensic Medicine and Toxicology, National and Kapodistrian University of Athens, 75 Mikras Asias St, 11527, Athens, Greece

Received: June 27, 2019; **Accepted:** August 13, 2019; **Published:** August 20, 2019

Abstract

In Greece, as in many other countries, rape and other sexual acts are legally characterized as criminal offenses. Furthermore, a Forensic Pathologist is required to examine victims of sexual assaults, in order to record ano-genital injuries that may suggest rape, and extra genital injuries that may indicate physical violence. The aim of the present study is to describe the phenomenon of sexual violence in the Attica prefecture (Greece), using real cases after a victim's allegation, and to discover differences, based on the various variables of the violent sexual incident. During the period of the study a total of 100 victims were examined for allegations of sexual violence. The majority of the cases concerned victimization in the community context, and more half of the victims claimed that they knew the offender(s). Over half of the allegations in our study concerned sexual victimization of children and adolescents, with a remarkable peek at young adolescents (11-15 years old). Head injuries, along with injuries located at the back and the thighs, were observed more frequently at victims that were sexually assaulted by strangers, rather than by known-to-the-victim offenders. Injuries located at the trunk (thorax, abdomen, and back), along with those located at the thighs, were ascertained as often in victims that had made allegations only for physical violence, as in victims of sexual assaults.

Keywords: Forensic medicine; Legal medicine; Forensic clinical examination; Sexual assault; Sexual abuse; Greece

Introduction

According to the World Health Organization sexual violence is defined 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"* [1].

Despite the fact that the extent of sexual victimization is not and probably will never be known, population-based studies have readily reported a prevalence of sexual violent acts at about 13–39% among adult women and 3% among men. The most common and well-known sexual act is considered to be rape. In the majority of cases, rape includes at least a penile/vaginal or a penile/anal penetration. Unfortunately, only a small percentage (16–38%) of rape victims report such an event to law enforcement agencies [2].

In Greece, as in many other countries, rape and other sexual acts are legally characterized as criminal offenses. According to the Hellenic Penal Code (HPC), rape is considered a felony and the minimum sentence that could be imposed to the offender is imprisonment for a period of 5 years. In cases with multiple offenders, the sentence is imprisonment for a period of at least 10 years.

A Forensic Pathologist in Greece is required to examine victims of sexual assaults, in order to record ano-genital injuries that may suggest rape, and extra genital injuries that may indicate physical violence. Furthermore, the Forensic Pathologist is responsible for the sampling of any biological material deemed necessary, based on the victim's testimony.

The aim of the present study is to explore whether there are remarkable differences between allegations for sexual violence in the domestic and the community context (as defined by WHO's typology of violence, in conjunction to the HPC and the Hellenic Law for Domestic Violence-HLDV), and between allegations against known-to-the-victim offenders and strangers. In addition, we will attempt to compare the results of previously published forensic studies, about sexual violence, with the findings of the population we examined.

Materials and Methods

From 2012 to 2016, 2466 forensic clinical examinations for alleged interpersonal violence were performed at the Department of Forensic Medicine and Toxicology of the Medical School of National and Kapodistrian University of Athens (NKUA). Forensic reports and supplementary interview reports for allegations about sexual violence were collected for analysis.

Allegations were divided into two categories: i) cases of domestic violence, subjected to the HLDV, and ii) cases of community violence, subjected to the HPC. Furthermore, based on the identification of the perpetrators by the victims, cases of community violence were divided as assaults by known-to-the-victim offenders and strangers, creating two new categories: i) sexual violence committed by known-to-the-victim offenders, that included cases of domestic violence and cases of community violence between acquaintances, and ii) sexual violence committed by strangers, that included cases of community violence between strangers.

Citation: Katsos K, Sakelliadis E, Zorba E, Tsitsika A, Papadodima S and Spiliopoulou C. Forensic Clinical Examination of Victims of Sexual Violence: A Study from Greece. Austin J Forensic Sci Criminol. 2019; 6(1): 1080.

Table 1: Prevalence of sexual violence in North-East and South-East regions of Attica prefecture, Greece.

Year	Total forensic clinical examinations after allegations for interpersonal violence	Allegations for sexual violence		Victims per 100,000 habitants (Habitants according to last census: 1,281,175)
		N	%	
2012	532	18	3.4%	1.41
2013	468	12	2.6%	0.94
2014	516	21	4.1%	1.64
2015	469	26	5.5%	2.03
2016	471	23	4.9%	1.80
Total	2466	100	4.1%	1.56

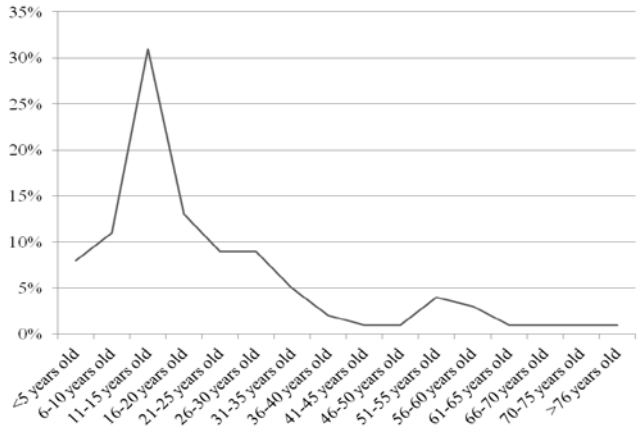

Figure 1: Age distribution of victims of sexual violence.

For every alleged sexual violence incident, the following variables were recorded:

1. The demographic characteristics of the victims and of the offenders (sex, age, nationality, employment status and marital status).

2. The total number of offenders in each violent incident.

3. The date of violent incident (hour, day, month).

4. The place of violent incident (public or private).

5. The victim examination, performed by another physician prior to the forensic examination.

6. The period (in days) between the incident and the allegation.

7. The period (in days) between the incident and the forensic clinical examination.

8. The type of injuries (ano-genital and extra genital injuries).

9. The anatomic distribution of extra genital injuries (head, neck, trunk, upper and lower limbs).

Data are presented as absolute and relative (%) frequencies. Categorical data were analyzed using Pearson's chi-square test. Data analysis was performed using the statistical package for social sciences software (SPSS version 25.0, SPSS Inc. Chicago, Illinois). A $p < 0.05$ was considered as statistically significant.

The collected data were collected anonymized and the Committee of Bioethics of the Medical School of NKUA approved the study.

Results

During the period of the study a total of 100 victims were examined for allegations of sexual violence, thus representing a 4.1% of the total of cases concerning interpersonal violence (Table 1). In 54 cases, the victims claimed that they knew the sexual offender(s). 75.0% of the allegations concerned a penile/vaginal or a penile/anal penetration.

Age distribution of victims is shown at (Figure 1). Most of the cases (83.0%) concerned victimization in the community context and most of them (60 cases) could be characterized as youth violence (victims and/or offenders were 10-29 years old).

In most of these cases (n=48) the victims were at least 10-29 years old, while in 11 cases both victims and offenders were between 10-29 years old. In just one case, only the offender was between 10-29 years old.

Most of the victims were females (84.0%), while most of the offenders were males (94.0%) (Table 2). Allegations for domestic sexual abuse concerned more frequently males that were under 17 years old, compared to allegations for sexual assaults in the community context.

With regard to allegations for sexual violence between strangers, victims appear to be more frequently older than 18 years old, while with regard to allegations for sexual violence by a known-to-the-victim offender, victimization under the age of 17 years old was more frequent.

In a 51.0% of the allegations, both victims and offenders were of the same nationality, more frequently especially concerning allegations for domestic sexual abuse (88.2%) or between acquaintances (83.3%).

In a sub-group of eleven (11) allegations, the victims were Greek nationals and the offenders were foreigners, while in another sub-group of five (5) allegations, the victims were foreigners and the offenders were Greek nationals.

Fifteen victims stated that more than one offender sexually assaulted them. In these cases, according to our result, the victims, most likely, did not know the offenders (p=0.002).

Domestic sexual violence was observed more frequently during spring, while assaults in the community context were observed more frequently during winter (Table 3).

The distribution through the hours of the day and night and through the days of week did not present with any notable and

Table 2: Demographic characteristics of victims and offenders.

VICTIMS				
	Community violence (n=83)	Domestic violence (n=17)	Violence by known-to-the victim offender (n=54)	Violence by strangers (n=46)
SEX				
Male	10.8%	23.5%	14.8%	10.9%
Female	89.2%	76.5%	85.2%	89.1%
AGE				
<17 years old	49.4%	88.2%	72.2%	37.0%
>18 years old	50.6%	11.8%	27.8%	63.0%
NATIONALITY				
Greek	71.1%	76.5%	79.6%	63.0%
Foreign	28.9%	23.5%	20.4%	37.0%
MARITAL STATUS				
Single	78.3%	88.2%	90.7%	67.4%
Married	8.4%	0%	1.9%	13.0%
Divorced/Separated	7.2%	0%	1.9%	10.8%
Widow/Widower	1.2%	0%	0%	0%
Unknown	4.9%	11.8%	5.5%	8.8%
EMPLOYMENT STATUS				
Employed	13.3%	0%	9.3%	13.0%
Unemployed	21.7%	5.9%	16.7%	19.6%
Retired	4.8%	0%	0%	8.7%
Student	53.0%	88.2%	70.4%	45.7%
Unknown	7.2%	5.9%	3.6%	13.0%
OFFENDERS				
NUMBER				
One	80.7%	100%	94.4%	71.7%
Multiple	18.1%	0%	5.6%	26.1%
Unknown	1.2%	0%	0%	2.2%
SEX				
Male	95.2%	88.2%	94.4%	93.5%
Female	0%	5.9%	1.9%	0%
Male and female	2.4%	0%	1.9%	2.2%
Unknown	2.4%	5.9%	1.8%	4.7%
AGE				
<17 years old	2.4%	0%	3.7%	0%
>18 years old	37.4%	58.8%	55.6%	23.9%
Unknown	60.2%	41.2%	40.7%	76.1%
NATIONALITY				
Greek	39.8%	70.6%	75.9%	8.7%
Foreign	24.1%	17.7%	16.7%	30.4%
Unknown	36.1%	11.7%	7.4%	60.9%
EMPLOYMENT STATUS				
Employed	15.7%	5.9%	25.9%	0%
Unemployed	4.8%	5.9%	7.4%	2.2%
Retired	1.2%	23.5%	9.3%	0%
Student	1.2%	0%	1.9%	0%
Unknown	77.1%	64.7%	55.5%	97.8%

Table 3: Season, place and other variables of the violent incident.

	Community violence (n=83)	Domestic violence (n=17)	Violence by known-to-the victim offender (n=54)	Violence by strangers (n=46)
SEASON				
Winter	20.5%	11.8%	11.1%	28.3%
Spring	22.9%	35.3%	25.9%	23.9%
Summer	20.5%	11.8%	22.2%	15.2%
Autumn	28.9%	17.7%	29.6%	23.9%
Unknown	7.2%	23.4%	11.2%	8.7%
PLACE				
Private	41.0%	88.2%	75.9%	17.4%
Public	39.8%	0%	7.4%	63.0%
Unknown	19.2%	11.8%	16.7%	19.6%
DAYS BETWEEN THE INCIDENT AND THE ALLEGATION				
The same day	25.3%	11.8%	14.8%	32.6%
The day after the incident	25.3%	5.9%	20.4%	23.9%
Two days after the incident	9.6%	5.9%	7.4%	10.9%
Three to seven days after the incident	13.3%	0%	7.4%	15.2%
More than a week after the incident	20.5%	52.9%	37.0%	13.0%
Unknown	6.0%	23.5%	13.0%	4.4%
DAYS BETWEEN THE INCIDENT AND THE FORENSIC EXAMINATION				
The same day	8.4%	0%	5.6%	8.7%
The day after the incident	27.7%	5.9%	18.5%	30.4%
Two days after the incident	10.8%	11.8%	9.3%	13.0%
Three days after the incident	9.7%	0%	1.8%	15.2%
Four to seven days after the incident	12.1%	0%	9.2%	10.9%
More than a week after the incident	25.3%	58.8%	42.6%	17.4%
Unknown	6.0%	23.5%	13.0%	4.4%

statistically significant peeks.

In the sub-group of victims that have stated that they were assaulted in a public place, the offenders were, most likely, strangers, while the sub-group of sexual assaults by acquaintances, the venue was, more likely, a private place ($p<0.001$).

Another physician has not examined most of the victims prior to the forensic clinical examination (79.0%). Furthermore, this fact was more frequent in allegations for sexual assaults in the community context, when the victims did not know the offenders (82.6%).

More than half of the allegations for domestic sexual violence were made at about a week after the incident. Allegations against acquaintances were made later than allegations against strangers ($p=0.031$) (Table 3).

Head injuries ($p=0.002$), especially facial ($p=0.002$), along with injuries located at the back ($p=0.010$) and the thighs ($p=0.034$), were observed more frequently at victims that were sexually assaulted by strangers, rather than by known-to-the-victim offenders.

On the other hand, statistical analysis revealed that the differences in the anatomical distribution of injuries between the victims of community and domestic violence had no statistical significance, but this result is not considered reliable due to the small size of the sample (Table 4).

Injuries located at the trunk (thorax, abdomen, and back), along with those located at the thighs, were ascertained as often in victims that had made allegations only for physical violence (n=2366) as in victims of sexual assaults (Figure 2).

Discussion

To the best of our knowledge, the present study represents the first forensic description of sexual violence in Greece. As mentioned above, the sample consists of actual cases of sexual violence that were reported to the police or other law enforcement agencies.

Based on the knowledge that only about a quarter of the victims are reporting their sexual victimization, it can be assumed that the real extent of this phenomenon is much greater.

On the other hand, taking into consideration that the areas of jurisdiction of our Department (north-east and south-east regions of Attica prefecture) that covers approximately one third of habitants at Attica prefecture, are considered of better socio-economic

Table 4: Type of injuries and distribution of extra genital injuries.

	Community violence (n=83)	Domestic violence (n=17)	Violence by known-to-the victim offender (n=54)	Violence by strangers (n=46)
TYPE OF INJURIES				
None	50.6%	64.7%	61.1%	43.5%
Anogenital injuries	19.3%	11.8%	24.1%	10.9%
Extra genital injuries	30.1%	23.5%	14.8%	45.6%
BODY REGION INJURED				
HEAD	15.7%	5.9%	3.7%	26.1%
Face	15.7%	5.9%	3.7%	26.1%
Cranium	1.2%	5.9%	1.9%	2.2%
NECK	7.2%	0%	3.7%	8.7%
TRUNK	41.0%	23.5%	33.3%	43.5%
Thorax	18.1%	5.9%	11.1%	21.7%
Abdomen	8.4%	5.9%	5.6%	10.9%
Back	15.7%	5.9%	5.6%	23.9%
UPPER LIMBS	19.3%	11.8%	11.1%	26.1%
Arms	12.1%	11.8%	11.1%	13.0%
Forearms	9.6%	11.8%	9.3%	10.9%
Hands	6.0%	5.9%	3.7%	8.7%
LOWER LIMBS	21.7%	5.9%	11.1%	28.3%
Thighs	21.7%	5.9%	11.1%	28.3%
Leg calves	9.6%	0%	5.6%	10.9%
Feet	1.2%	0%	0%	2.2%

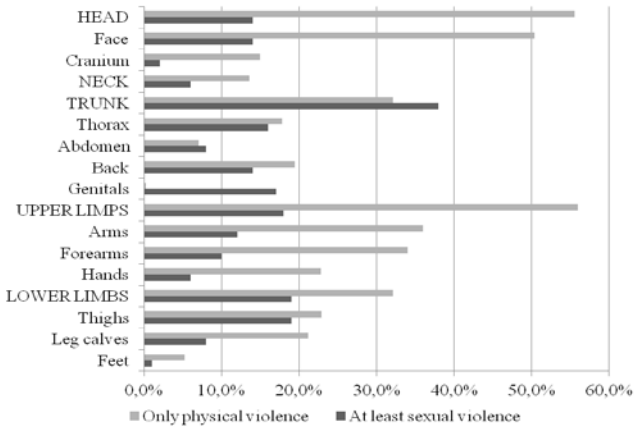

Figure 2: Anatomical distribution of injuries.

status, the prevalence for sexual violence from our sample (4.1% of total allegations for interpersonal violence) cannot be considered insignificant.

During the last decade, only a few studies presenting injuries and other variables concerning victims of sexual violence have been published [3-7].

The comparable findings from these studies, that all concerned women's victimization are presented at (Table 5). This is the most important difference of our study, as 13% of the victims that were examined in our Department were males, mostly boys. Furthermore, some of the studies reported women's sexual victimization by an intimate partner (current or ex) ranging from 16% to 32% [4,6,7]. During the period of our study, 575 women were examined for allegations concerning physical violence from an intimate partner. Just three of them have reported sexual violent acts during the violent incident, but unfortunately, none consented to genital or anal examination, and thus they were not included to our sample.

It must be noted that only after 2005, the year that the HLDV was voted at the Hellenic Parliament, rape by an intimate partner is considered a criminal offense. The extremely low reporting incidence of sexual violence by an intimate partner in our Department, may actually suggest that these acts may be still considered as tolerable or even acceptable within the Greek society.

Three self-reporting studies, that all included Greek population, have demonstrated controversial results concerning sexual violence between intimate partners. Papadakaki et al. have reported extremely low prevalence of sexual victimization and perpetration (1.7% and 1.5% respectively) [8]. On the other hand, Artinopoulou reported higher prevalence of sexual victimization of women (3.5%) [9]. Finally, Costa et al. reported even higher prevalence (16.8% and 33.0% respectively for men, and 20.6% and 21.6% respectively for women) [10].

The true extent of this phenomenon in Greece is still unknown and the results of self-reporting studies should be interpreted with extreme caution. While self-reporting studies may show more accurately the true extent of sexual violence in a population, studies

Table 5: Comparison of results reported by other studies, similar to ours.

	Moller et al	Larsen et al	Sharaf El-Din et al	Souto et al	Zilkens et al	Our study
Country	Sweden	Denmark	Egypt	Brazil	Australia	Greece
Sample size	503	2541	130	291	1163	100
Type						
Community	60%	-	83%	62%	-	83%
Domestic	20%	-	17%	38%	-	17%
Relationship						
Known	62%	44%	48%	84%	69%	54%
Stranger	17%	26%	52%	16%	17%	46%
Time from assault to examination (Total sample)						
<3 days	-	-	56%	-	85%	50%
>3 days	-	-	44%	-	15%	41%
Time from assault to examination (Offender: known)						
<3 days	74%	-	-	-	-	35%
>3 days	26%	-	-	-	-	52%
Time from assault to examination (Offender: stranger)						
<3 days	84%	-	-	-	-	67%
>3 days	16%	-	-	-	-	28%
Place						
Public	-	33%	-	-	70%	33%
Private	-	64%	-	-	26%	49%
Type of injuries						
Ano-genital	20%	27%	91%	-	-	18%
Extra genital	58%	53%	61%	5%	-	28%
Number of offenders						
One	79%	-	80%	94%	86%	84%
Multiple	11%	-	20%	6%	9%	15%
Anatomical distribution of extra genital injuries						
Head	21%	-	-	-	-	14%
Trunk	25%	-	-	-	-	21%
Extremities	52%	-	-	-	-	27%

that are based on allegations, such as forensic-population studies, may show the extent of injuries (ano-genital and extra genital), which will be used in Criminal Courts.

The results of our study revealed a higher risk of sexual victimization, when compared with the results presented at a study from Egypt. This is not, of course, the only difference as, more importantly, Sharaf el-Din et al. have reported the highest incidence of ano-genital injuries, among all the above mentioned studies (91%) [5].

In our study, the incidence of ano-genital injuries was the lowest one (18%), but remarkable differences were observed, mainly based on the type of violence and on the identification of the offenders. More specifically, ano-genital injuries were more frequent at sexual violent incidents by known-to-the-victim offenders (24%) and in the community context (19%), when compared with only in 12% of victims of domestic violence and in 11% of incidents committed by strangers. The low incidence in cases of domestic sexual violence can possibly be explained by the time that has elapsed between the assault and the forensic clinical examination, as only a 17.7% of these victims has been examined during the first three days (<72 hours).

On the other hand, the similar low proportion that was observed concerning sexual assaults by strangers cannot be easily explained, as the majority of these victims (67%) has been examined within the first three days, and more than half of them (39%) within 48 hours after the incident.

Over half of the allegations (58%) in our study concerned sexual victimization of children and adolescents. A remarkable peek at young adolescents (11-15 years old) was also noticed. Furthermore, minors' victimization was more predominant in cases of domestic sexual violence (88% vs 12% of adults' allegations). According to the BECAN study that involved nine countries of the Balkan Peninsula, it was observed that the self-report incidence of exposure of Greek

minors (11, 13, and 16 years old) to sexual violent acts was 9.54% (8.97-10.10% 95% C.I.), while incidence of contact sexual violent acts was 4.45% (4.05-4.85%, 95% C.I.) [11].

In accordance to other studies, a single offender assaulted/abused most of the victims. Nevertheless, more than a quarter of victims that were assaulted by strangers had mentioned multiple offenders.

Sexual assaults by strangers have been reported earlier than those concerning known offenders, and thus explaining the reason for the relatively early (<72 hours) examination of the victims. The differences presented on (Table 5), concerning time frame from assault to examination, which in most of countries is related to the time from assault to allegation, may reflect the confidence to the judicial system and the level of tolerance of sexual assault within the community, as long as the existence of societal norms that support sexual violence.

Both girl and women are in greater risk of getting sexual assaulted in the community context or abused in the domestic environment. It was also observed that allegations of sexual violence against boys were more frequent in the domestic than in the community context. These facts, in conjunction to the high prevalence per 100,000 habitants, observed in our study, should probably raise concerns about prevention and protection of children and adolescents from this form of violence at the early stages of their lives.

According to a few studies that have presented the findings of forensic cases of child sexual abuse/assault during the last decade, ano-genital findings during the examination ranged from 29% to 54% [12-14]. Furthermore, the most common finding that was used by the Coroner to confirm sexual abuse in Salvador; Bahia, Brazil was a ruptured hymen [15]. In our study, in 12 out of 56 cases of minors' sexual victimization (21%) ano-genital injuries were assessed during the examination. Confirmation of child sexual abuse should not base only on the findings of the forensic clinical examination, as physical examination alone is infrequent diagnostic [16]. The healing process in minors, especially in adolescent girls, is considered more rapid, making imperative the examination during the first three days [2].

In those cases of ano-genital injuries were not observed, the interpretation of extra genital injuries may be indicative of sexual violence. In our study, injuries located at the thorax, the abdomen, and the back, along with injuries located at the thighs, were equally observed on victims of sexual violence (mainly concerning allegations in the community context, especially against strangers) and on victims that have claimed that the perpetrator has used only physical violence. This finding probably indicates that injuries at these specific body regions can be a useful tool in controversial cases of sexual violence.

In general, interpretation of injuries, both ano-genital and extra genital, is of great importance in every case of sexual violence. As absence of injuries to a rape victim does not negate the victim's claims, existence of injuries is not always suggestive of sexual violence [17].

Conclusion

According to our study, allegations for sexual assault in the community context were more frequent than allegations for domestic sexual abuse. Ano-genital injuries were observed more frequently in allegations against known-to-the-victim offenders, whilst extra genital injuries were more common in cases that the victims did not know the offenders.

References

1. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R. World Report on Violence and Health. Geneva: World Health Organization. 2002.
2. Madea B. Handbook of forensic medicine. New Jersey: Wiley Blackwell. 2014.
3. Larsen ML, Hilden M, Lidegaard O. Sexual assault: a descriptive study of 2500 female victims over a 10-year period. BJOG. 2015; 122: 577-584.
4. Moller AS, Backstrom T, Sondergaard HP, Helstrom L. Patterns of Injury and Reported Violence Depending on Relationship to Assailant in Female Swedish Sexual Assault Victims. J Interpers Violence. 2012; 27: 3131-3148.
5. Sharaf El-Din AA, Elkholy SM, Metwally ES, Farag HA. Pattern of Female Sexual Assault in Qalyubia Governate, Egypt, During the Period from 2009 to 2013. A Retrospective Study. Am J Med Pathol. 2015; 36: 276-284.
6. Souto RQ, Araujo FK, Xavier AF, Cavalcanti AL. Rape against Brazilian Women: Characteristics of Victims and Sex Offenders. Iran J Public Health. 2015; 44: 1613-1619.
7. Zilkens RR, Smith DA, Kelly MC, Mukhtar SA, Semmens JB, Phillips MA. Sexual assault and general body injuries: A detailed cross-sectional Australian study of 1163 women. Forensic Sci Int. 2017; 279: 112-120.
8. Papadakaki M., Tzamalouka GS, Chatzifotiou S, Chliaoutakis J. Seeking for Risk Factors of Intimate Partner Violence (IPV) in a Greek National Sample: The Role of Self-Esteem. J Interpers Violence. 2009; 24: 732-750.
9. Artinopoulou V. Domestic Abuse of Women. Athens: Nomiki Bibliothiki Group. 2006.
10. Costa D, Soares J, Lindert J, Hatzidimitriadou E, Sundin O, Toth O, et al. Intimate partner violence: a study in men and women from six European countries. Int J Public Health. 2015; 60: 467-478.
11. Petroulaki K, Tsirigori A, Zarokosta F, Nikolaidis G. Epidemiological characteristics of minors' exposure to experiences of violence in Greece: The BECAN Study. Psychiatriki. 2013; 24: 262-271.
12. Aydin B, Akbas S, Turla A, Dundar C, Yuce M, Karabekiroglu K. Child Sexual Abuse in Turkey: An Analysis of 1002 Cases. J Forensic Sci. 2015; 60: 61-65.
13. Hornor G, Thackeray J, Scribano P, Curran S, Benzinger E. Pediatric sexual assault nurse examiner care: Trace forensic evidence, ano-genital injury, and judicial outcomes. J Forensic Nurs. 2012; 8: 105-111.
14. Magalhaes T, Taviera F, Jardim P, Santos L, Matos E, Santos A. Sexual abuse of children. A comparative study of intra and extra-familial cases. J Forensic Leg Med. 2009; 16: 455-459.
15. Silva WD, Barroso-Junior UO. Child Sexual Abuse Confirmed by Forensic Examination in Salvador, Bahia, Brazil. Am J Forensic Med Pathol. 2017; 38: 54-58.
16. Sakelliadis SI, Spiliopoulou CA, Papadodima SA. Forensic investigation of child victim with sexual abuse. Indian Pediatr. 2009; 46: 144-151.
17. DiMaio VJM, DiMaio D. Forensic Pathology. 2nd Edition. Florida: CRC Press LLC. 2001.