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**Medico Legal Characteristics of Domestic Violence**  
Судско медицинске карактеристике породичног насиља

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## Medico Legal Characteristics of Domestic Violence

### Судско медицинске карактеристике породичног насиља

#### SUMMARY

**Introduction/Objective** Domestic violence is a phenomenon as old as the history of human civilization, present in all cultures, epochs and social systems. Despite the fact that domestic violence represents a dangerous and unacceptable social phenomenon, as well as a significant medical problem, there are still no precise data on the prevalence of this phenomenon in our country.

This study aims to determine the elementary forensic characteristics of domestic violence that would represented the basis for future medical research on this field.

**Methods** In the period of the year 1996-2005 were analyzed 4,593 records of forensic autopsy (n=3,120) and clinical forensic medical examinations (n=1,473) in order to determine the cases of domestic violence.

**Results** The analysis encompassed 300 cases (6.5%) clinically examined (n=211; 70.3%) and autopsied (n=89; 29.7%) victims of domestic violence. It was determined a statistically significant increase in domestic violence cases ( $\chi^2=12.74$ ;  $p=0.00036$ ) in the observed period. The victims mostly were females (78%), with the mean age of 45.8 years old (min=0.3; max=85; SD=17.7), married (45%), with personal income (74.4%), and resided in the city (66.3%). The majority of abusers were males (89.3%). Intimate partner violence was present in 58.3% cases. Physical abuse was the commonest form of violence (97.7%), while sexual violence (2.3%) and the child abuse (4.3%) recorded rarely.

**Conclusion** The results of this research indicate that forensic medicine can be of great help in the designing appropriate standards for conducting clinical medical examination, preventive programs and strategies in fighting against domestic violence.

**Keyword:** domestic violence; forensic medicine; abuse; injury

#### САЖЕТАК

**Увод/Циљ** Породично насиље је феномен стар колико и историја људске цивилизације, присутан у свим културама, епохама и социјалним системима. Упркос чињеници да насиље у породици представља опасно и неприхватљиво друштвено понашање, као и значајан медицински проблем, у нашој земљи и даље не постоје прецизни подаци о учесталости ове појаве.

Циљ овог истраживања је детерминација основних судско медицинских карактеристика породичног насиља, које би представљале базу за будућа медицинска истраживања на овом пољу.

**Метод** У периоду 1996–2005. године анализирано је 4.593 протокола судско медицинских обдукција (n=3 120) и клиничких судско медицинских прегледа (n=1 473), у циљу евидентирања случајева породичног насиља.

**Резултати** У анализу је укључено 300 случајева (6,5%) клинички прегледних (n=211; 70,3%) и обдукованих (n=89; 29,7%) случајева породичног насиља. У посматраном периоду је утврђен статистички значајан пораст броја случајева породичног насиља ( $\chi^2=12,74$ ;  $p=0,00036$ ). Жртве су најчешће биле женског пола (78%), просечне староси 45,8 година (мин=0,3; макс=85, СД=17,7), у браку (45%), са личним примањима (74,4%) и настањене у граду (66,3%). Највећи број насилника је био мушког пола (89,3%). Насиље између интимних партнера је било присутно у 58,3% случајева. Физичко злостављање је био најчешћи облик насиља (97,7%), док су сексуално насиље (2,3%) и злостављање деце (4,3%) били ретко заступљени.

**Закључак** Резултати овог истраживања упућују на то да судска медицина може бити од велике помоћи у пројектовању одговарајућих стандарда за обављање клиничких лекарских прегледа, као и превентивних програма и стратегија у борби против насиља у породици.

**Кључне речи:** породично насиље; форензичка медицина; злостављање; повреда

#### INTRODUCTION

Domestic violence (DV) is a phenomenon as old as the history of human civilization, present in all cultures, epochs and social systems [1]. For this reason, the ubiquity and universality are essential characteristics of this phenomenon [2]. Until the late 1960s, DV was not provoked any particular attention of society. The dominant opinion was that "a home is a man's fortress" and that violence within the family is a private matter. During the 1980s and 1990s, DV became more widely

recognized and considered as one of the most under-reported crimes [2, 3]. In the coming years, DV has been seen not only as a dangerous and unacceptable social behavior produced and maintained by the cultural and social norms, but also a great burden on the health system at the global level [3, 4]. Numerous problems that affected Serbia over the past decades, including long lasting social and economic crisis, the general impoverishment of the population, an increase in unemployment, the inability to satisfy basic subsistence needs, the arrival of a vast number of refugees and many other, caused the dramatic rise in all forms of violence in our country [4, 5], including DV. Despite that, there is a deficiency of exact data of DV incidence in Serbia [5] both in the context of social, as well as in the context of natural sciences.

The actual study attempted to determine medico legal characteristics related to the distribution, structure, nature, and consequences of DV, with the aim to achieve a better understanding of this phenomenon from a forensic perspective, that would represented the basis for future medical research of this phenomenon.

## **METHODS**

This retrospective study conducted at the Institute of Forensic Medicine of Faculty of Medicine University of Niš, Serbia, by analysis of autopsy protocols and reports of DV victims who underwent to clinical forensic examination in the period 1996 – 2005. There were analyzed 4,593 cases (3,120 autopsy reports and 1,473 clinical exams). The cases of DV victims (n=300; 6.5%) were analyzed in the investigated sample.

The survey covered the territory of District of Niš (the second largest district in Serbia by size, with surface of 2,729km<sup>2</sup> and 373,404 inhabitants) and surrounding areas of Southeastern Serbia (the territory surface of 14,010km<sup>2</sup> and total of 1,551,268 inhabitants) [6].

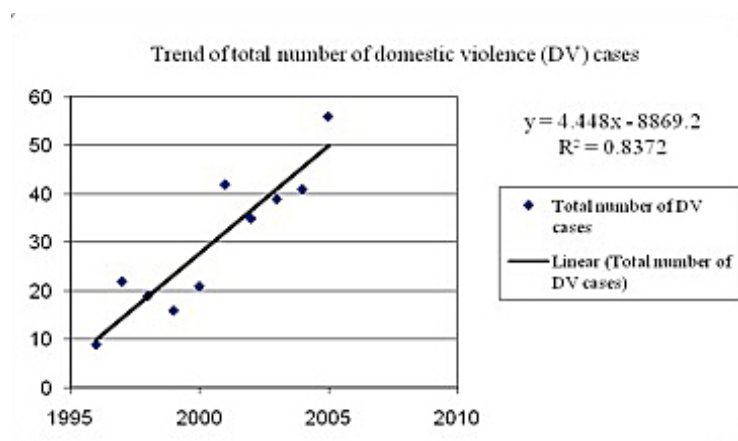
Each clinical examination was preceded by giving the informed consent of the examined person about using of information for scientific research purposes, with absolute protection of their identity and privacy. The Ethic Committee of Faculty of the Medicine University of Niš approved research on the human cadavers.

In every case several items were analyzed: the aspect of the victims, the aspect of the abusers, the characteristics of violence (form of violence, reason, time and place of violence act), as well as the forensic aspect of the victim's injuries (the type, topography, severity and outcome, weapon type and mechanism of harm). The results statistically analyzed using Statistical Package for Social Sciences (SPSS Statistics for Windows 2008, Version 17.0. Chicago, Illinois: SPSS Inc.)

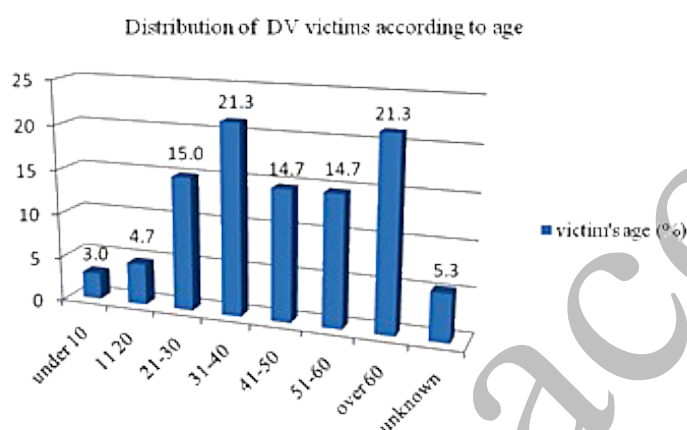
## **RESULTS**

The retrospective analysis of the records of the Institute of Forensic Medicine Niš between the years 1996 and 2005 revealed a total of 300 DV cases, which constituted the 6.5% of all examined subjects (n=4,593). Among the DV cases, clinically examined subjects and autopsied victims were

represented in 70.3% (n=211) and 29.7% (n=89), respectively. In relation to the total sample, there was a statistically significant increase in DV cases ( $\chi^2=12.74$ ;  $p=0.00036$ ) (Figure 1). Clinical



**Figure 1. Trend of total number of domestic violence (DV) cases.**

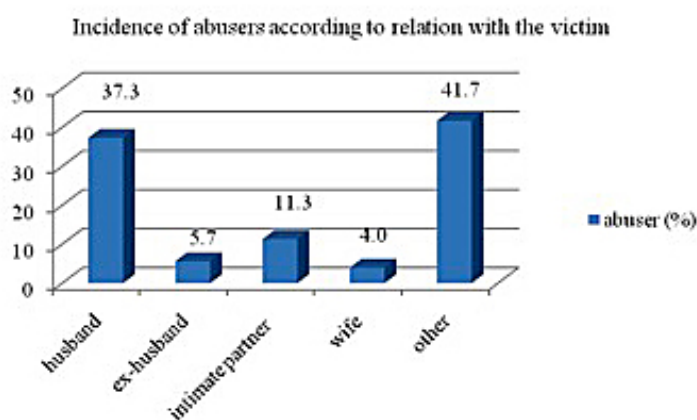


**Figure 2. Distribution of DV victims according to age.**

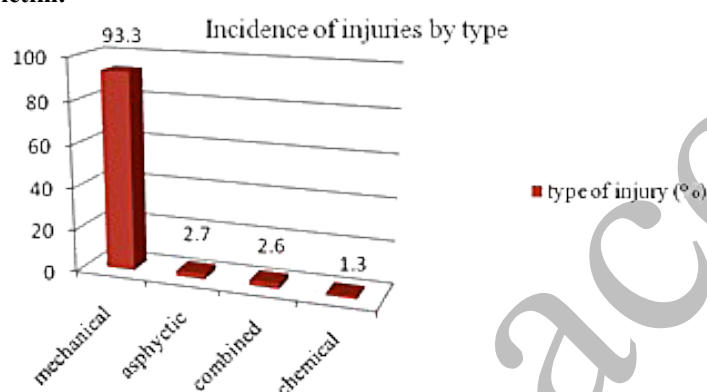
forensic examination carried out at personal request of DV victims in 65.7% cases, while in 34.3%, examination was conducted at official order by investigating authorities (in all autopsied and 4.6% clinically examined victims). The victims under 18 years were represented in 4.3% cases (n=13) (Figure 2). More than one-half of all victims were formally married (45%) or lived in cohabitation e.g. extramarital community (6.7%). The most victims (74.4%) had personal income (employed, retired, agriculturists), while the victims without incomes (housewives, unemployed and dependent persons) accounted for about one-quarter of all cases (25.6%). Majority of victims resided in the city (66.3%). The results showed an increase in the number of victims in urban areas, but not statistically significant ( $\chi^2=0.335$ ;  $p=0.56$ ). In addition, there is statistically insignificant negative trend of victims from the rural areas ( $\chi^2=0.625$ ;  $p=0.43$ ).

The majority of abusers were males (89.3%) while women committed violence against family members in 10.7% cases. The most common reason for DV was quarrel and disagreement (56.7%). In only 11% cases abusers were under the influence of alcohol at the time of violence act, and the majority of them were found to be mentally competent (94.7%). Violence act mostly occurred in the residence of the victim (82%), in the afternoon and evening (total 59.3%), during the summer and autumn. The peak incidence was in September (11.7%). Regarding the relations between abuser and victim, the majority of abusers expressed violence within intimate partner relationships (58.3%), towards their actual or former intimate partners (formally married, cohabitating or after separation/divorce). Intimate partner violence (IPV) was committed by male abusers in 54.3% and by

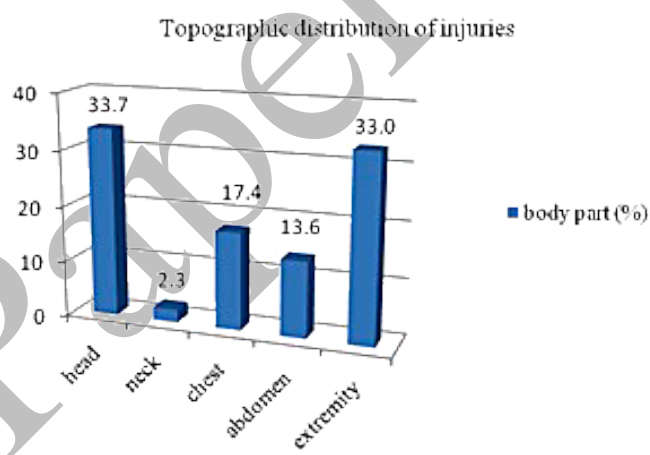
female abusers in 4% cases, respectively (Figure 3). After the killing of a family member, male abusers have committed suicide in twelve cases. Suicide followed intimate partner homicide in nine cases and attempted suicide in one case. There was no suicide among female abusers.



**Figure 3. Incidence of abusers according to the relation with the victim.**



**Figure 4. Incidence of injuries by type.**



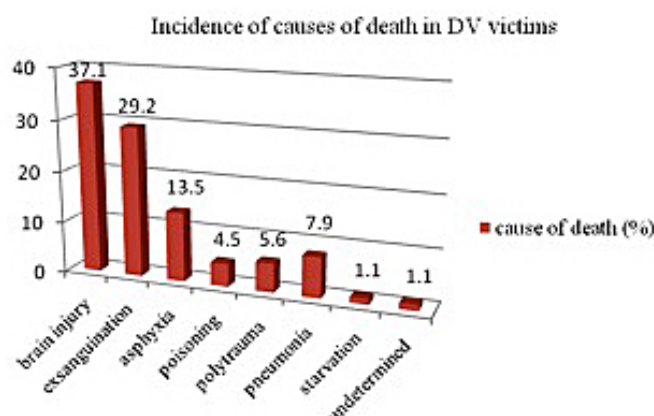
**Figure 5. Topographic distribution of injuries.**

In the group of clinically examined victims (n=211), the commonest were skin and underlying soft tissues injuries (hematoma, abrasion, contusion, laceration), and to a lesser extent bone fractures and dislocations, all inflicted by blunt objects. In this group, there were no injuries inflicted by

Continuous and long lasting DV was present in 46% cases. The commonest form of DV was physical violence (97.7%), while sexual violence recorded only in 2.3% cases (all the victims were females, aged from 16 to 65 years). The psychological violence, which usually accompanied physical and sexual abuse, was not possible to investigate due to the lack of information in the study sample.

Physical abuse almost exclusively manifested by mechanical injuries (93.3%), while the other types of injuries (e.g. asphyxia, thermal, chemical etc.) were present to a much lesser extent (6.7%) (Figure 4). Blunt mechanical trauma caused 75.5% of all injuries, usually induced by blows with fists, foot or various objects (wooden sticks, metal rods, hammer, agricultural tools, chair, ashtray, phone, brick, stone, strap, cable, rope, etc.). Injuries inflicted by firearms and sharp weapons were present in 10.7% and 10.4%, respectively. Most commonly encountered injury sites were head (33.7%) and extremities (33%) (Figure 5).

firearms. In contrast to previous results, in the group of autopsied casualties (n = 89), the most frequent cause of death was a severe brain injury, chest, and abdominal trauma, or multiple bodily



**Graph 6. Incidence of causes of death in DV victims.**

injuries (poly trauma), inflicted by blunt or sharp objects and firearms (Figure 6). Regarding the severity of all mechanical injuries, minor bodily injuries were present in 65.9%, severe in 9.7%, serious life threatening in 12.5% and unconditionally fatal injuries in 11.8% cases.

## DISCUSSION

DV represents any use of force, threats, or other forms of coercion sufficient to injure or endanger the physical and/or psychical integrity of the victim, which makes family member to other members that lives or lived in the community, or with whom is / was in intimate relationships [7, 8]. Some feminist theorists advocate the view that apart from the army during the war, the family represents the most violent social institution with high chances of being killed, physically abused, punched, beaten, and slapped [1]. The results of our study are not so far from such attitude.

Despite the fact that there is no systematic monitoring of DV in Serbia, the authorities have recognized this phenomenon as a separate entity, and accordingly have made significant steps in its disclosure and studying in different scientific fields [5]. The present study reveals some important points about DV in our community.

First, there is an obvious increase of DV cases within the studied group. According to the scientific data, it seems to be that growing trend is not only a consequence of general rise in crime but also a result of active national strategy in the legislation of this offense [5, 8]. Patriarchal ideas about gender relations and parenting are still prevalent in our country. Those are the main reasons that DV for a long time has not been considered as a serious form of violence, but as the common and socially acceptable behavior [5, 7]. Our society marginalized and ignored this phenomenon for decades. Until 2002, there were no adequate legal mechanisms to prevent and fight against DV in Serbia [9]. Influence of positive legislation and greater individual's sensitivity to this kind of violence contributed to the more frequent reporting [5], which is the condition that should be undertaken into consideration in the analysis of results.

Second important result of our study revealed overwhelming majority of female victims and male abusers, which is corresponding with results of almost all previous studies conducted around the world [10-13]. A survey on male violence against women, carried out during 2011 by the Ministry of Labour and Social Policies' Development Initiatives Republic of Serbia and funded by the United

Nations, revealed that 54.2% of women suffer from some form of DV induced by men [10, 14]. This survey based on a representative sample of 2,500 Serbian women between 18 and 75 years old.

Our findings about IPV, which includes violence towards actual or former intimate partners showed the similar results as the research of Dixon and Graham-Kevan [13]: a male abusers were violent towards their marital or extra-marital partners or ex-wives in 54.3% cases. On the other side, female intimate partner abusers expressed violence exclusively towards their marital partners (4%), and never to the extramarital partners or ex-husbands. The current study also confirmed the fact that the most severe forms of DV were related to IPV, especially to the marital violence [14,15]. According to our results, IPV has a fatal outcome in 14% cases, out of which men conducted violent act in 11.7%, and women in 2.3% cases. This research showed an interesting result that after the killing of a husband, there were no suicidal tendencies among female abusers. Unlike women, after taking the life of the wife, ex-wife, or intimate partner (n = 35), male abusers were committing suicide in nine cases and attempted suicide in one case. Other authors [16, 17] established similar results in intimate partner homicide-suicide studies. In the light of the above-mentioned results, it is necessary to undertake specific preventive measures directed to the most vulnerable population group – women in abusive intimate partner communities.

Third distinctive feature of DV relates to the small representation of children in the survey sample. Namely, minor victims (under 18 years) were represented in 4.3% cases (n=13). Among them, in four fatalities and nine non-fatal cases, the abusers were their biological parents. These results correspond with the findings of other researchers that also suggested the high number of under-reported cases of DV against children [18]. The explanation for this phenomenon lies in a total child's dependence on their abusive parents, which logically avoids self-reporting to the authorities [19, 20]. In our study, non-violent parent (usually also a victim of the same abusive family member) has always reported DV against children. In accordance with these results, appropriate national strategies are required for disclosure of DV and child's protection [18–20].

Fourth characteristic result of this research refers to a small number of identified sexual violence cases (2.3%). Such finding almost certainly points to an “iceberg phenomenon” [10, 11, 13], which indicate a high proportion of under-reported (“missed”) cases. The reason for such outcome can be primarily explained by the fact that the marital rape was established in the Criminal Code of the Republic of Serbia as late as 2002 [9]. It means that the legislator did not recognize this form of violence as a criminal offense before this period. In addition to this, there is a deficiency of standardized protocols for medical examination not only for the DV victims but also for the rape victims. These circumstances greatly complicate professional's working with victims. To be specific, the rape in general, and particularly DV rape, is associated with a high degree of secondary victimization that occurs during the medical procedures, pre-investigation and court proceedings, and additionally discourages victims in reporting the offense. For this reason, creating standardized medico legal protocols for rape and DV victims can be of great help for society [21]. Determining the



characteristics of injury on the victim's body and sampling of biological material as physical evidence that gave rise to the litigation is imperative in forensic detection of any crime, including DV offenses [21, 22]. Thus, comprehensive medical approach to work with victims imposes the necessity for forensic clinical examination in such cases.

Fifth important finding reveals physical violence as the dominant form of DV (97.7%). From medico legal point of view, the severity of injury directly correlated with the manner of medical treatment [23, 24]. In most cases of minor bodily injuries (65.9%), medication was required, but not necessarily. Severe bodily injuries (9.7%) demanded particular medical assistance, while serious, life-threatening injuries (12.5%) always needed urgent and specialized medical care, as well as the obligatory hospitalization. Prompt and suitable medical help could not save victim's life in 11.8% cases of unconditionally fatal injuries. The similar results about physical injuries related to DV were reported in the scientific literature [24, 25], according to which DV represents one of the leading causes of injury in general population [5, 17].

## CONCLUSION

The existence of numerous prejudices, conciliatory public attitude, and viewing DV as an acceptable behavior, significantly contributes to the high frequency and extent of this form of violence in our society. The results of this research on DV indicate that forensic medicine can be of great help not only for court proceedings, but also in the designing appropriate standards for conducting clinical medico legal examination, prevention programs and strategies in fighting against this phenomenon. Therefore, educations, and training the physicians of all specialties in recognizing the specific elements of DV abuse, as well as application of medical protocols to the treatment of DV victims, are necessary for a better understanding of the health hazards related to this field.

## REFERENCES

1. Gelles JR, Straus AM. Determinants of violence in the family: toward a theoretical integration. In: Wesley R, editor. Contemporary theories about the family. New York: Free Press; 1979. p. 549-581.
2. Hamby S. Intimate Partner and Sexual Violence Research: Scientific Progress, Scientific Challenges, and Gender. *Trauma Violence Abuse*. 2014;15(3):149-158.
3. Barnett OW, Miller-Perrin CL, Perrin RD. Family violence across the lifespan: An introduction. 3rd ed. Thousand Oaks (CA): Sage Publications; 2011. p. 1-39.
4. Horton R. Violence and medicine: the necessary politics of public health. *Lancet*. 2001; 358(9292): 1472-3.
5. Ellsberg M, Jansen H, Heise L, Watts CH, Garcia-Moreno C. Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. *The Lancet*. 2008; 371(9619): 1165-72.
6. Vukmirovic D, editor. Statistical Yearbook of Serbia. Belgrade: Statistical Office of the Republic of Serbia; 2011. p. 17-35.
7. Council of Europe. Recommendation Rec(2002)5 of the Committee of Ministers to member States on the protection of women against violence. Available at URL: [http://www.coe.int/t/pace/campaign/stopviolence/Source/rec2002\(5\)\\_en.doc](http://www.coe.int/t/pace/campaign/stopviolence/Source/rec2002(5)_en.doc)
8. World report on violence and health: summary. World Health Organization. Geneva; 2002. Available at URL: [http://www.who.int/violence\\_injury\\_prevention/violence/world\\_report/en/full\\_en.pdf](http://www.who.int/violence_injury_prevention/violence/world_report/en/full_en.pdf)



9. The Organization for Economic Co-operation and Development (OECD). Atlas of Gender and Development How Social Norms Affect Gender Equality in non-OECD Countries. France, Paris: OECD Publishing; 2010. p. 82–3.
10. Gracia E. Unreported cases of domestic violence against women: towards an epidemiology of social silence, tolerance, and inhibition. *J Epidemiol Community Health*. 2004; 58(7): 536–7.
11. Watts C, Zimmerman C. Violence against women: global scope and magnitude. *The Lancet*. 2002; 359(9313): 1232–7.
12. Djikanovic B, King E, Bjegovic-Mikanovic V. Gender Differences in Health Symptoms Associated with the Exposure to Physical Violence in Family: Data from the 2006 National Health Survey in Serbia. *J Fam Violence*. 2013; 28(8): 753–61.
13. Dixon L, Graham-Kevan N. Understanding the nature and etiology of intimate partner violence and implications for practice and policy. *Clin Psychol Rev*. 2011; 31(7): 1145–55.
14. Valpied J, Hegarty K. Intimate partner abuse: identifying, caring for and helping women in healthcare settings. *Women's Health (Lond. Engl.)*. 2015; 11(1): 51–63.
15. Sugg N. Intimate partner violence: prevalence, health consequences, and intervention. *Med Clin North Am*. 2015; 99(3): 629–49.
16. Mohanty MK, Panigrahi MK, Mohanty S, Das SK. Victimologic study of female homicide. *Leg Med*. 2004; 6(3): 151–6.
17. Campbell JC. Health consequences of intimate partner violence. *The Lancet*. 2002; 359(9314): 1331–6.
18. Hornor G. Domestic violence and children. *J Pediatr Health Care*. 2005; 19: 206–12.
19. Mikton C, Butchart A. Child maltreatment prevention: a systematic review of reviews. *Bulletin of the World Health Organization*, 2009; 87:353–61.
20. Jovanovic A., Popovic V, Savic S., Alempijevic D, Jankovic N. Munchausen syndrome by proxy. *Srp Arh Celok Lek*. 2005; 133(3-4): 173–9.
21. Pollak S. Clinical forensic medicine and its main fields of activity from the foundation of the German Society of Legal Medicine until today. *Forensic Sci Int*. 2004; 144: 269–83.
22. Stark MM. *Clinical forensic medicine - A Physicians guide*. 2nd ed. Totowa, New Jersey: Humana Press; 2005. p. 127–58.
23. Saddki N, Suhaimi AA, Daud R. Maxillofacial injuries associated with intimate partner violence in women. *BMC Public Health*. 2010; 10: 268.
24. Allen T, Novak SA, Bench LL. Patterns of injuries: accident or abuse. *Violence Against Women*. 2007; 13(8): 802–16.
25. Sheridan DJ, Nash KR. Acute injury patterns of intimate partner violence victims. *Trauma Violence Abuse*. 2007; 8(3): 281–9.