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АССОЦИАЦИЯ ЭКОНОМИКИ, УПРАВЛЕНИЯ
И ПСИХОЛОГИИ В МЕДИЦИНЕ *КОНСТАНТИН ЕЦКО*

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10th INTERNATIONAL SYMPOSIUM OF THE OSTEUROPAVEREIN RECHTSMEDIZIN E.V.

DOMESTIC AND GENDER-BASED VIOLENCE

30 May – 1 June, 2024
Chișinău, Republic of Moldova

FOREWORD

Dear Colleagues and Friends,

On behalf of the organizing committee, it is our pleasure to welcome you to the 10th International Symposium of the Osteuropaverein Rechtsmedizin e.V. The symposium was organized by the Chair of Forensic Medicine at the Nicolae Testemițanu State University of Medicine and Pharmacy (Republic of Moldova) in partnership with Osteuropaverein Rechtsmedizin e. V. (Germany) and the Centre of Forensic Medicine (Republic of Moldova). The scientific forum was held in Chișinău, the Republic of Moldova from May 30th to June 1st 2024 and united forensic medical experts and researchers from Moldova, Germany, Romania, Slovakia, Bulgaria, North Macedonia and Ukraine.

Domestic and gender-based violence are among the most severe and widespread offences and human rights violations that modern societies have to tackle. All countries worldwide regardless of their political or economic status, population wealth, races, religion, or cultures face these phenomena. This kind of violence has significant consequences on the victims' physical, mental, and reproductive health and hence, it poses also a challenge for public health. Forensic medical examinations play a crucial role in the investigation of domestic and gender-based violence and forensic doctors need to have specific knowledge and skills to ensure an appropriate response.

These are some of the reasons why the Symposium in 2024 focuses specifically on issues related to Domestic and Gender-Based Violence. It shall serve as a discussion platform for many researchers and experts in the field of forensic medicine to exchange their knowledge, research and recent solutions in specific cases. The symposium series serves a useful purpose, as the number and quality of papers submitted illustrate it. More than 80 authors submitted 11 articles in extenso and 14 abstracts. We hope you find the papers published here interesting and full of future research potential.

We thank the Rector of the Nicolae Testemițanu State University of Medicine and Pharmacy, Professor Emil Ceban, for hosting the Symposium and to the editor-in-chief of the „Sănătate Publică, Economie și Management în Medicină" Journal, Associate professor Natalia Zarbailov, for editing the Symposium materials. We express our gratitude to the Embassy of Finland in Bucharest for supporting the Symposium within the project „Strengthening the physicians' ability to a better response to domestic violence".

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IMPORTANT DETAILS

- Deadline for registration – 01 May 2024
- Deadline for submitting papers – 15 March 2024
- Use the following link to register and upload your papers/abstracts: https://forms.gle/HMvaA83H3vNMogvt8
- Articles and abstracts will be published in the Journal of Public Health, Economy and Management in Medicine
- The symposium is planned to be held as a hybrid meeting

10th INTERNATIONAL SYMPOSIUM OF THE OSTEUROPAVEREIN RECHTSMEDIZIN e.V.

DOMESTIC AND GENDER-BASED VIOLENCE

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ARTICLES

THE DARK SIDE OF DOMESTIC VIOLENCE

Andrei Scripcaru[1], Bulgaru Iliescu Diana[1,2], Iov Tatiana[2], Bogdan Daniel Chirila[2], Madalina Maria Diac[1,2], Calin Scripcaru[3]

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Summary: *From the multiple forms of family violence, the aggression against women remains a serious social problem concerning many aspects which are still unclear. Even if family violence passed through ages affecting all social categories, people started to be concerned about its effects only in the XX-th Century, more precise in 1977. Even though family violence is very often found, it was constantly hidden by strong myths and false legends ("it's happening only in the lower classes", "women ask for it", "this is the women s condition") also society was afraid of touching the sanctity of the marital couple and the connection between man and his wife. Research in USA and Great Britain showed that violence against women reached endemic levels and has no connection with ethnic origin, race, social level, religion and education (Straus-1975, Boyd and Klingbeil-1979, Walker-1979). A lot of cases seem to remain unreported to the police because of several reasons: violence is happening in the protected environment of the family; many victims don't want to report abuses and police together with social institutions avoid intervention in this type of violence.*

In the last decades a lot of efforts have been made to help the victims of domestic violence. Even if at the beginning this was a taboo social subject, in the last 20 years the press has helped to become one of the most disputed subjects. Starting with 1980's many countries started to create special institutions to fight against women abuses. These institutions helped abused women to find alternative solutions to their problems, not only divorce or continuous terror. In the last years, municipalities together with courts and mental health services started to offer therapy to the violent husbands included in programs of group therapy. In this way if the victim agrees, the violent husband may follow such a therapy instead of prison punishment.

Keywords*: violence, women, couple, family*

Introduction: Among the many forms of family violence, partner molestation continues to be a serious social problem with many aspects that still escape us. Although it has always existed, affecting all layers of society, it came to our attention only at the end of the 8th decade of the twentieth century, more precisely in 1977. Even though marital violence has been assumed to occur quite often, its prevalence has always been obscured by strong myths ("it only happens in the lower classes", "this is the condition of women", "women demand it") and society has been reluctant to touch the sanctity of the couple and the husband-wife relationship.

Numerous research from the US and UK shows that partner molestation has reached almost epidemic proportions and crosses any boundary defined by ethnic origin, race, social class, religion or education (Straus-1975, Boyd and Klingbeil-1979, Walker-1979). Because everything happens in the family, because many victims are reluctant to report abuse, and because police and social and health institutions are hesitant to intervene, many cases go unreported. Perhaps this led James Bannon in 1974 to assert that victims in Detroit were more likely to be killed in their own homes by people they knew than by a stranger.

In recent decades, many efforts have been made to help the victims of domestic violence. Like many other taboo subjects of society, the issue of abused women has become, with the help of the media, one of the most discussed. Since the 8th decade, many communities have established special services to treat female abuse. In the US, a turning point was the adoption of a law that made the abuse on women an illegal act, thus giving assaulted partners the opportunity to go to court (1980). These efforts have helped women broaden their options, rather than limiting themselves to the possibility of divorce or a life of constant fear. Lately, municipalities, along with courts and mental health offices, have begun to offer abusive spouses the opportunity to participate in a joint therapy program, if the victim agrees, instead of serving a custodial sentence.

Purpose: To analyze situation regarding reporting of domestic violence cases and to show causes of non-reporting to the police.

Material and methods: The paper represents a systematized literature review of 14 sources, enriched with results of proper studies.

Results: What are the essential types of abuse?

1) Intimidation - causes a continuous state of fear through violent gestures, hitting, destruction of goods, use of household objects against her.

2) Emotional abuse - humiliates the victims, makes them feel bad about themselves, makes them feel guilty about everything.

3) Isolation - controls what she does, who she meets, who she talks to, what she reads, uses jealousy as a reason for this attitude.

4) Blaming, denying - minimize the abuse and do not take her concern seriously. He says nothing happened or blames her for provoking him.

5) Using children - makes her feel guilty for children, threatens to take her children, harm them.

6) Male privilege - treats her like a maid, acts as if he was her master.

7) Economic abuse - prevents her from taking a job, makes her ask for money, gives her a monthly quota of money, does not let her know what his income is.

8) Coercion and threat - threatens to leave her, hurt her and make her withdraw her complaints and force her to commit illegalities.

The influence of abuse may persist long after the abuse has ceased. The more severe the abuse, the greater the impact on the physical and mental health of the person. The impact of multiple types of abuse and repeated episodes has a negative cumulative effect, sometimes of unimaginable severity, involving both material and psychological costs.

The unseen face of domestic violence – ethological considerations

What do ethologists say about aggression?

A field unjustly neglected in socio-psychological approaches, ethology is the science that deals with the study of behavior and way of life of animals. First, this perspective is interesting to approach and does not make its presence felt in the literature to the extent it deserves; much research in the field of ethology should be reconsidered on human behavior, even taking into account the fact that extrapolating to humans the conclusions from experiments or studies with infrahuman subjects does not yet have sufficient justification. The results can be interpreted with caution specific to scientific accuracy. We can find common elements that will clarify soon some theories underlying the explanation and understanding of humans. The most frequently approached area was aggressiveness. Aggression is not an exclusive characteristic of humans, it is found in many species, just like fear or anger or group behaviors or socialization. In the case of domestic violence, we cannot make an abstract analysis of the individual taken in isolation because it occurs within a private, social interaction, generating dysfunctions of couple dynamics.

In Darwin's theory of species, he named in 1872 the principle of antithesis: members of certain species can adopt two different postures vis-à-vis other members of the same species: the threat posture and the submission posture.

Ethologists have identified some scopes of aggression in infrahuman species, among which.

- defense of territory
- competition for mating
- defending the young
- definition of status within the framework of the social order of the species.

Their behavior can take different forms: offensive, defensive, and predatory. These types of act by virtue of preserving the above-mentioned scopes.

The environment influences the manifestations of aggression through the main factors:

- overpopulation
- isolation, and
- change of territory.

In humans, factors which increase aggression and could be assigned to the fore-mentioned scopes are stress-generating factors, also called risk factors:

- change of job
- moving (changing apartments/ houses)
- emigration
- unemployment
- poverty.

All these lead to a decrease in the desirability of the individual in inter-human competition and to a decrease in status on the social or economic ladder. But these factors are not solely responsible for the increase in aggression, because domestic violence in all its forms (physical, psychological, sexual, economic and social) is found in all social environments (those with education, good economic condition, high social status).

Jealousy can be a reaction within the mating competition that can occur during courtship. But when it exceeds its function, it can turn into an individual characteristic, often dysfunctional, generating frustrations and conflicts.

The only function that does not find justification and coverage in intrafamily aggressive behaviors is that of "defending the offspring". And we refer here to violence against children, where this function is circumvented and specialists' explanations insufficient in this regard.

It is possible that in time humans, by restricting the living area to the family nucleus, transformed the family into the territory in which to try to manifest aggression, but in this case the territorial defense function cannot be transferred identically.

The hypothesis of genetic transmission of aggressive or criminal characteristics, the existence of a "crime gene", was presented. The existence of such a gene could not be proven with certainty, but studies conducted on monozygotic twins (in which the genetic baggage is identical) detected a 4 times higher risk in the occurrence of criminal behaviors. Hereditary baggage has a big influence but is not exclusive. It is obvious, however, that the hormonal substrate is of great importance, which in phylogenetically evolved species is common. There are studies that identify the main hormones involved in aggression – adrenaline and testosterone in high amounts. It is known that testosterone is found in higher quantities in males than in females.

In humans, the biological basis does not justify aggression a priori, because the neurophysiology is much more complex (the development of the neocortex in the evolution of the human species) and, in addition, there are cognitive adjustments humans can make as well as the influence of social learning. The human is one of the species with the longest lifespan and childhood (socialization and imprinting period). The influence of the family environment, role-models, behaviors seen and internalized, the decoding of their functions as normal or adaptive are undeniable. Humans are capable of learning but especially of choosing, capable of self-control. This is why we prefer the "free will" hypothesis as a modulator of human behavior. Cognitive abilities allow humans to build weapons that serve their purposes, whereas in other species we find biological weapons. The environment can generate constraints, but the predictive capacity of human thinking, of analysis and problem solving, and previous experience offer a wider range of options in various situations. This is why we consider humans to be the most widespread species in areas with different living conditions.

Additionally in ethology we can find a plausible explanation of aggressive remissions in the "cycle of domestic violence", composed of three major parts:

- increased tension (criticism, screaming, angry gestures, coercion, threats);
- violence (physical, sexual assault, threats);
- seduction (apologies, blame, promises of change, gifts).

Post-aggressive remission in ethology, according to the psych hydraulic model of motivation (Lorenz K.), describes the decrease in motivation to manifest aggressive behavior after a fight or an aggressive episode, for a certain period of time. But the explanation is limited and simplistic and some studies do not confirm it.

The psych hydraulic model launched by Konrad Lorenz in 1950 belongs to the range of theories called homeostatic and is based on the analogy of filling a tank with water: when water reaches a certain level (specific energy of action) the general pressure causes water to flow (manifest behavior). According to this model, an organism tends to set in motion the manifest behavior (searching for food, we could extrapolate to reducing frustration, confirming power, reducing fear) when this need reaches a level at which it needs to be satisfied (specific energy of action).

Other homeostatic theories worth mentioning are the theory of needs (Lorenz and Tinbergen), the theory of general needs (Hull) - in which a necessity triggers the need that must be fulfilled through a behavior - the theory of anticipated feeding (McFarland). These theories, however, cannot explain why behavior that has given rise to the fulfillment of a need continues even after its function has apparently ceased. The explanation may be incomplete because it refers to basic needs such as hunger, defense, conservation.

Aggressive domestic behaviors (humiliation, threatening, harassment, blaming) that can be repeated for long periods of time with significant frequence, refer to perversions of higher needs (the need for security, belonging, esteem, cognitive needs, aesthetic needs, self-fulfillment). We call them perverted needs when referring to domestic violence because they are manifested in behaviors opposite to those desirable to satisfy human needs. How else can we explain that the desire to dominate, to control, the desire for power are the unrecognized facts of the need for esteem and respect? Or that insisting on vehemently claiming that you're always right, or that someone else is to blame for an event, or that they're responsible for your aggression, isn't the need to restore your weakened self-esteem and self-efficacy?

The theory of social learning shows us that early learning influences the level of aggression manifested by the individual. The hormonal base and learning are interdependent. Thus, the individual until adolescence is sufficiently socialized to be able to partially control or direct his aggression. What is the situation of those who "cannot" control their aggressive manifestations directed at others?

Bandura in 1971 concludes that aggressive behaviors (allowed, praised) were suggested and reinforced to these people. They learned that violence is a way to control the environment, to resolve conflicts, to get what they want through the use of coercion and physical or mental strength (words remain in this case a dangerous weapon, non-verbal behavior).

Over time, this pattern becomes stable, manifesting itself with a large degree of generality. We encounter changes in the "molecular" structure of personality. The psychological effects of domestic violence can be found in all actors involved in this phenomenon: victims, aggressors, witnesses. They are mostly long-lasting effects. We consider necessary a parallel between these effects in victim and aggressor, in order to identify, recognize, inform and strengthen the need for therapeutic intervention, be it social, psychological or through medication.

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For the prosperity of society and the growth of a healthy young generation, it is necessary to create a nonviolent climate. In this respect, this paper proposes some measures to prevent and combat aggressive behavior.

Now as never before, we need to respond to the need to protect women victims of domestic and non-family violence and to prevent, combat and punish the acts of violence.

We must start from the acknowledgment that victims of this kind of violence are in a position of inferiority in relation to their aggressors and must be protected, above all, by legislation.

A law project should be set up including aspects relating to:

Defining the term woman victim of violence and extending the notion of family member in case of intra-family violence to persons who live in the same household and who are not linked by marriage or kinship relations (for example – cohabitee, concubine), because these persons also fall into the category of victims of this type of violence;

- The need to appoint certain persons to deal with cases of women victims of violence and to introduce specific programs for their training and improvement;
- Using psychological report and social inquiry as evidence in trials on violence against women to encompass the entire social and psychological picture of conflict within and outside the family;
- Guidance to mediation services in order to protect victims and relieve courts of additional workload;
- Establishing high professional standards, in accordance with European and international legislation, regarding mediation procedures in such conflicts;
- Also, the specialization of a police worker to be the central point of support and intervention especially for female victims of domestic violence, in accordance with the legislation of the Member States of the European Union, with a clear definition of the specific duties of this person;
- establishing telephone services for recording the case, counseling, and referring cases of violence against women.
- Establishment of the Commission for Preventing and Combating Violence against Women in communities that would contribute to the development of the respective communities on the principle of local responsibility in preventing and combating acts of violence against women through collaborative initiatives and working together;
- Introducing a measure to remove the aggressor from the common home in case of domestic violence against women in order to protect her from violent acts and establishing a separate legal regime for this measure;
- Guaranteeing all individual procedural rights for the person against whom this measure has been taken, in accordance with internal procedural provisions, constitutional provisions and international documents, in order to prevent any form of abuse in the application of this measure;
- Sanctioning non-compliance with the measure in accordance with the principles of respect for law and rule of law;
- Establishing measures to prevent and sanction certain criminal acts are likely to affect women's social relations.

Measures to prevent domestic violence:

The collaboration of the Ministry of Justice, Health, and the Institute of Legal Medicine, as well as other governmental bodies with responsibilities in assisting victims of domestic violence through the territorial structures of these bodies to assume the following attributions:

- Monitoring and collecting information about cases of domestic violence in the sector or territorial unit served, drawing up a separate record and ensuring access to the information contained therein at the request of judicial bodies and parties or their representatives;
- Support and information for other police workers who encounter situations of domestic violence during their specific activities;
- Identifying possible risk situations for the parties involved in the conflict and guiding them to active services;
- Requesting information on the outcome of mediation;
- Cases of domestic violence shall be submitted to mediation at the request of the parties, throughout the criminal proceedings, in cases where criminal proceedings are initiated upon prior complaint. All persons with responsibilities in investigating a case of domestic violence will guide the parties in this regard;
- Mediation will be carried out by competent and neutral people in a voluntary, independent, accessible procedure and within a reasonable time. Mediation does not involve criminal proceedings or the application of legal provisions;
- Production and dissemination of informative materials on the causes and consequences of violence;
- Carrying out educational programs for parents and children in order to prevent domestic violence;
- Establishment of social assistance service programs through associations and foundations to provide psychological and legal counseling, medical assistance, accommodation, food.

Conclusions: In order to protect women victims of extra-family violence:

Whenever there is evidence or serious indications that an act of violence causing physical or mental suffering has been committed against a woman, at the request of the victim, or ex officio, to be ordered the removal of the aggressor;

Conducting training sessions highlighting all aspects of the phenomenon of extra-family violence against women;

Education of minors and adolescents in support of nonviolence, for conflict resolution in nonviolent forms and means;

Changing stereotypes about masculinity and femininity that manifest themselves in the media or through various cultural clichés that make women a sure victim of most aggressions;

Elaboration of special public education programs disseminated through mass-media to raise awareness among the population of risk factors that potentiate or determine the acts of aggressions against women;

Scientific research to provide important information on appropriate ways to combat and prevent violence against women, highlighting the main risk factors faced by victims, the main characteristics of persons at risk of assault and of the aggressors, specific circumstances of mistreatment situations;

To intensify the concerns of treatment and re-education of aggressors, based on the idea of resocialization, relearning or reforming the capacity to control emotions and modifying prejudices to the so-called "inferiority of women" and to the "men's right of domination ".

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CHILD ABUSE: ALGORITHM OF ACTIONS FOR A FORENSIC MEDICAL EXAMINER

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Summary: *Introduction. Family violence is a serious problem with significant societal implications. It can take various forms, including physical, psycho-emotional, economic, and sexual violence. From a medico-social perspective, it is a serious issue, as individuals subjected to violence in the past often face psychological disorders later on. Children and adolescents who witness domestic violence internalize corresponding gender behavior models and transmit them to the next generation. The*

aim of the study was to conduct a comprehensive investigation related to child abuse and adolescent violence by systematically analyzing literature and developing an algorithm of action for a forensic medical examiner. Materials and Methods. A systematic thematic bibliographic review was utilized for this study. Results. An algorithm of actions for a forensic medical examiner was developed for cases of child abuse or suspicion thereof. Discussion. To suspect child abuse and conduct a proper examination of the victim without causing additional harm, forensic medical examiners must understand the child's reaction to child abuse and its consequences. Another important competence of forensic medical examiners in cases of suspected child abuse is obtaining a correct and comprehensive medical history. Conclusions. Child abuse and neglect manifest in various forms, each with its unique consequences, yet consistently pose a serious threat to the child's health, development, and socialization, often endangering the child's life or leading to fatal outcomes. Studying the research results on this matter allows the conclusion that it is an important problem requiring further study and development of preventive measures. Although forensic medical examination in cases of domestic violence is not a separate type of expertise, the identified peculiarities and social significance underscore the need not only for improving the methodology of expert research but also for establishing clear collaboration with medical institutions, law enforcement agencies, social services, and non-governmental organizations. Additionally, to prevent long-term consequences of domestic violence, involving relevant specialists such as psychologists or psychotherapists in the forensic medical examination of victims is advisable.

Keywords**:** *child abuse, adolescent violence, family violence*

Introduction: Child abuse and adolescent violence pose a serious challenge both for the state and for every conscious individual. The consequences of this detrimental phenomenon manifest in many children lacking access to education, stable housing, resorting to begging, and enduring physical violence. Unfortunately, domestic violence extends beyond the confines of the family, and children who experience parental violence later perpetrate cruel acts against their peers. This leads to an escalation of violence across all societal levels, necessitating urgent resolution [1, 21, 24].

Family violence is a serious problem with significant societal implications. It can take various forms, including physical, psycho-emotional, economic, and sexual violence. According to data from the National Police of Ukraine, in 2023, 243.980 complaints and reports of offenses related to domestic violence were filed with the police. Of these, 76.5% were from women, over 20.5% were from men, and over 3% of the total were from children. From a medical-social perspective, this is a serious issue, as individuals who have been subjected to violence in the past often experience psychological disorders later on. Children and adolescents who witness domestic violence internalize corresponding gender behavior models and transmit them to the next generation [2, 13, 20].

Since January 11, 2019, Ukraine has enacted the Law "On Prevention and Counteraction to Domestic Violence" [28], which significantly changed responsibility for manifestations of violence in the family. According to the new Article 126-1 of the Criminal Code of Ukraine, domestic violence, including the intentional systematic use of physical, psychological, or economic violence against a spouse or former spouse, or another person with whom the perpetrator is (was) in a family or close relations, is punishable by community service, arrest, restriction of liberty, or imprisonment. Additionally, it is noteworthy that in 2022, Ukraine ratified the Istanbul Convention, which aims to prevent violence against women and children and combat such manifestations. The authors' intention behind the Convention is to protect victims of violence and punish offenders. Under its jurisdiction, in addition to women and children, men and elderly people are also covered. The Convention advocates that violence against women and children, domestic violence, is not a private matter; the state must prevent violence, protect victims, and criminally prosecute perpetrators [27]. Suspecting cases of domestic violence against children, detecting and documenting physical injuries on children's bodies, as well as signs of neglect and inadequate care, are justified and relevant skills for a forensic medical examiner.

It is important to note that the definition of domestic violence now encompasses not only events in a registered marriage but also cases of aggression between former partners and between persons in civil unions. Additionally, individuals who live or have lived together, as well as relatives (siblings, uncles, aunts, nieces, etc.), can be identified as perpetrators of domestic violence [1, 3, 9].

According to researchers, the majority of victims of domestic violence are individuals of working age (25-48 years old). Other age groups, such as children and adolescents, become participants in family drama much less frequently [1, 8, 12, 22, 26]. Although children are less likely than other family members to experience violence, child victims typically experience different forms of violence simultaneously, leading to more severe consequences. For example, sexual violence (incest) not only causes physical harm but also destroys family relationships, trust, and often involves psychological violence through manipulation, threats, or intimidation [7, 16, 17, 26]â.

Purpose of the research: The purpose of this study was to conduct a comprehensive investigation related to the issue of child abuse and adolescent violence through a systematic analysis of the literature. Based on the gathered information, develop a protocol for forensic medical examiners in cases of suspected child abuse and adolescent violence, aiming to systematize actions and facilitate the expert's work in this field.

Materials and methods: For this study, a systematic thematic bibliographic review was conducted. The primary portal for publication search was selected as the Scopus database (www.scopus.com). Additionally, limited searches in the Google Scholar database were used for original queries. Furthermore, we searched the bibliographies of each article to include more studies related to the topic. In total, over 500 publications were analyzed. The reviewed sources were classified according to their focus. Publications covering forensic medical, social, and medical aspects related to child abuse and adolescent violence were included in the study.

Results: Given the above information, in cases of severe treatment of children or suspicion thereof, it is advisable to conduct forensic medical examinations of the victims. In addition to adhering to the basic recommendations for conducting forensic medical examinations of victims, defendants, and other persons, it is proposed to follow the following algorithm of action:

1) Questioning about the circumstances of the incident should comply with moral and ethical standards, taking into account the potential influence of adverse situational factors that may trigger memories of violent events. It is important to formulate questions accurately and try to create a trusting atmosphere to obtain a comprehensive history.

2) Explain to the victim, if possible, in understandable terms, that all information provided will be confidential and will not be disclosed to any other persons, including the perpetrator.

3) Examination should be conducted in the presence of an official representative of the child, to create comfortable conditions during questioning and further examination, it is recommended that the forensic medical examiner be of the same gender as the victim.

4) Fully document all complaints of the victim (if available, considering age); in cases of repeated violence, document all time intervals, circumstances of infliction, etc.

5) Examine all parts of the body, as practice shows, victims may recall their injuries in other areas after some time, sometimes hours, or the next day after examination.

6) Document all existing injuries according to the generally accepted scheme in forensic medicine (bruises, abrasions, scratches, hemorrhages, scars, etc.) with mandatory indication of localization, quantity, and full description using photographic documentation.

7) If necessary, refer the victim for additional examinations.

8) Conduct video recording during the collection of medical history and further examination of the victim for the possibility of using the obtained video data (to prevent psychological trauma to the victim) during further investigative actions, which should be communicated to the criminal investigation/court.

9) Remember that the qualification of injuries as inflicted beatings, torture, and mutilation is not within the competence of the forensic medical expert. This issue falls within the competence of pre-trial investigation bodies/courts.

Discussion: To suspect child abuse and conduct a proper examination of the victim without causing additional harm, forensic medical examiners should understand the child's reaction to abuse and its consequences. Research results [5, 10] indicate that violence against children in different age groups leads to various consequences and elicits different reactions from the child. Critical periods for such violence are considered to be preschool and adolescent ages, often referred to as "risk periods". The child's age also influences their mental state and behavior. Infants (0-6 months) typically demonstrate low activity, indifference to surroundings, weak reaction to external stimuli, or no reaction at all, rarely smiling. As they develop (from 6 months to 1.5 years), signs such as fear of parents, increased avoidance of physical contact, constant and unfounded anxiety, increased crying, whining, withdrawal, sadness, fear, or depression when adults attempt to console them may appear. In the age range of 1.5 to 3 years, children may exhibit fear of adults, rare displays of joy, increased crying, frightened reactions to other children's crying, and extremes in behavior ranging from excessive aggression to apathy. Older children (3 to 6 years old) may demonstrate acceptance of adverse events, lack of resistance, passive response to pain, hypersensitivity to criticism, avoidance behavior, excessive compliance, pseudo-adult behavior, negativity, aggression, dishonesty, theft, cruelty to animals, and tendencies towards arson. In early school age, signs may include

a desire to conceal the cause of injuries and trauma, feelings of loneliness, lack of friends, reluctance to go home after school, unusual food preferences such as consumption of plaster, feces, leaves, snails, etc. In adolescence, indicators may include running away from home, suicide attempts, delinquent behavior, alcohol and drug use [4, 5, 23].

Another important competence of forensic medical experts, when suspected of child abuse, is obtaining a correct and comprehensive medical history. As noted in the literature [6, 11, 14, 18], 60% of parents involved in cases of child abuse had various mental disorders such as depression, severe anxiety disorders, acute delusional reactions, alcoholism, and others. Additionally, these parents faced socio-economic challenges, issues, and significant deprivation in their childhood.

It is important to note that the consequences of domestic violence against children, besides physical injuries, include various psychological and behavioral disorders. These may include loss of trust in adults and close individuals, withdrawal and emotional vulnerability, possible speech disorders, and attention deficits. Among the individual-psychological character traits acquired as a result of violence, low self-esteem, uncertainty, undeveloped volitional qualities, increased anxiety, fear, aggression, oppositional behavior, passive or, conversely, hyperactive behavior, timidity, fearfulness, withdrawal, submissiveness, mood swings, increased suggestibility, susceptibility to influence, depression, isolation, inadequate emotional expressions (outbursts of laughter, anger, or unjustified crying that do not correspond to the situation), or bold behavior can be listed [15, 19]. Thus, any situation of violence involving a child is multifactorial and requires special attention from forensic medical experts during examination.

Conclusions: Child abuse and neglect manifest in various forms, each with its unique consequences, yet the impact on the health, development, and socialization of the child is invariably serious, often posing a threat to the child's life or even leading to fatal outcomes. Studying the research results on this issue allows us to conclude that it is an important problem that requires further study and the development of preventive measures.

The problem of child abuse in the family has shifted from being considered solely a private family matter to a problem addressed at the state level. Legislative measures have become a significant step in combating child abuse. Despite some positive developments in understanding child abuse, legal and social mechanisms for protecting children remain imperfect.

Preventive measures play a crucial role in combating violence, focusing on restraining immoral and unlawful behavior, identifying any negative impact on the lives and health of children, and proactively preventing such influence. Social workers play a key role in this context, tasked with implementing initiatives for social rehabilitation aimed at promoting the social adaptation and restoration of social functions in children who have experienced violence. Domestic violence entails a complex of negative consequences, including physical injuries, mental health disorders, undermining the victim's self-esteem, and even suicidal tendencies. Systematic cruelty may incite the victim to retaliate against the aggressor or develop what is known as the "Stockholm syndrome," where the victim justifies or sympathizes with the abuser.

For children who have experienced domestic violence, consequences may include socialization disorders, mental disorders, the development of guilt complexes, lowered self-esteem, the emergence of aggressive and ruthless behavior towards others.

While forensic medical examination in cases of domestic violence is not a separate type of examination, the identified features and social significance underscore the need not only to improve the methodology of expert research but also to establish clear cooperation with medical institutions, law enforcement agencies, social services, and non-governmental organizations. Additionally, to prevent long-term consequences of domestic violence, it is advisable to involve victims in forensic medical examination with the participation of relevant specialists such as psychologists or psychotherapists.

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MORPHOLOGY OF THE SEQUELAE OF INCREASED INTRACRANIAL PRESSURE

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Summary*. With the introduction of the concept of primary and secondary brain injuries, it became clear that the outcome of one particular cranial-cerebral injury greatly depends on the secondarily initiated mechanisms, which are actually resulting of raised intracranial pressure (ICP). We can conclude about the existence of the raised ICP during person was alive, at the postmortem examination only by its effects on the brain tissue i.e. the signs of internal herniation as sequelae of it. This paper discusses our findings on the sequelae of raised ICP based on neuropathological examination of 80 forensic cases of closed head injury with a survival until 1,5 months. Our findings indicate that the herniation of the brain is going to occur in the first 10,5 days in 90% of the cases and in nearly half of them this deadly consequence can occur in the first 48 hours, which is of great clinical importance.*

Keywords*: ischemia, herniation, secondary brain injuries*

Introduction: With the introduction of the concept of primary and secondary brain injuries, it became clear that primary brain injuries (focal and diffuse brain injuries inflicted directly by forces of impact) are not decisive for the outcome of one particular cranial-cerebral injury, but greatly depend on the secondarily initiated mechanisms. The latter are actually result of raised intracranial pressure (ICP) [1, 4, 9, 10, 11].

The intracranial cavity is a space of limited volume, where three main contents are present: the brain 80%; the blood 2-11%; and the cerebrospinal liquor 10%. When the equilibrium of these contents is impaired, an increase in ICP occurs. The ICP is a clinical parameter which can be measured only ante mortem. Normal values are below 2 kPa (1 kPa =7,5 mm Hg), elevation to 3 kPa is considered mild, to 4 kPa moderate, and values exceeding 5 kPa are considered as severe intracranial hypertension [14]. The lethal upper limit of ICP is of 8-10 kPa.

During the post-mortem examination, what we can conclude about the increased ICP is only by its effects on the brain tissue and the occurrence of the signs of internal herniation [9, 11, 14, 15].

The herniation of the brain represents the movements of particular parts of the brain, from one compartment to another. The increased pressure in the supratentorial region leads to herniation against the edge of the tentorium cerebelli i.e. transtentorial herniation where the most exposed part is the temporal lobe uncus, including the hippocampus and the parahippocampal region. The increased pressure in the infratentorial compartment leads to herniation through the foramen magnum i.e. infratentorial herniation. This is associated with brainstem compression and death. The midline shift of the medial parts of the brain hemispheres (gyrus cinguli) to the left or right under the falx cerebri is known as subfalcine herniation [10, 14].

In this study, the sequelae of increased intracranial pressure i.e. signs of internal herniation have been analyzed in order to emphasize the characteristic morphological appearance of those injuries in the post-mortem examination of the brain and their correlation with the time of survival. **The overall purpose** of this study has been to contribute to the neuropathological criteria for determining the sequelae of increased intracranial pressure in the daily forensic medicine practice.

Material and methods: 80 cases with fatal closed head injury (57 male, 23 females, age ranged from 5 to 94 years), already presented in another study [5], have been now analyzed for the appearance and distribution of hypoxic-ischemic brain injury and the signs of internal herniation.

The inclusion criteria included post-mortem interval up to 24 h and the availability of data concerning: clear evidence of the type of the traumatic event [5] the known time of survival and full autopsy information. Clinical information was obtained for cases that survived long enough to be clinically investigated.

The survival period ranged from instantaneous death to 1.5 months (12 of the examined cases died quickly after the traumatic event, 25 of them survived 24 hours, 22 cases survived 1 week and the rest 21 cases survived more than 1 week, the longest survived 1,5 month).

All cases have been subjected to a forensic neuropathological examination of fixed brains in 10% buffered formalin [6, 8, 13].

Finding uncal notching or hemorrhages and necroses in the hippocampus and the parahippocampal area and infarctions of the inferior surfaces of both occipital lobes resulting from posterior cerebral artery

compression have been considered to be a sign of transtentorial herniation. The characteristic finding of the cerebellar tonsillar notching and the secondary brainstem hemorrhages which typically occur in the midline of the midbrain and pons (the so-called Duret hemorrhages) have been considered to be a sign of infratentorial herniation [5,10].

Results and discussion: Using the criteria given above, signs of the internal herniation have been perceived in 46 (57,5%) of the cases, Table 1.

Table 1. Finding signs of herniation in the examined cases.

Type of internal herniation	Number of cases (abs.46)	%
Transtentorial herniation	16	20
Infratentorial herniation	9	11,25
Subfalcine herniation	1	1,25
Transtentorial and infratentorial herniation	12	15
Transtentorial and subfalcine herniation	2	2,5
Infratentorial and subfalcine herniation	3	3,75
Transtentorial, infratentorial and subfalcine herniation	3	3,75

Table 2 presents the time of survival for all cases diagnosed with internal herniation. Using the data on Table 2, the distribution of the time of survival in cases with herniation was explored i.e. the dependence between the time of survival and the occurrence of herniation, Fig. 1.

Table 2. Time of survival for all cases diagnosed with internal herniation

Case No.	Type of the herniation	Time of survival
1	Transtentorial herniation	9 days
2	Infratentorial herniation	10 days
3	Subfalcine and transtentorial herniation	2 days
4	Infratentorial herniation	2-4 hours
5	Infratentorial herniation	6 days
6	Transtentorial herniation	until 1 hour
7	Subfalcine and infratentorial herniation	2 days
8	Infratentorial herniation	until 1 hour
9	Transtentorial and infratentorial herniation	3 days
10	Transtentorial and infratentorial herniation	12 days
11	Transtentorial and infratentorial herniation	10 days
12	Transtentorial and infratentorial herniation	10 days
13	Transtentorial herniation	immediately
14	Transtentorial and infratentorial herniation	2 days
15	Transtentorial and infratentorial herniation	1,5 month
16	Subfalcine herniation	3 weeks
17	Subfalcine and infratentorial herniation	3 days
18	Subfalcine herniation, transtentorial and infratentorial herniation	8 days
19	Transtentorial herniation	until 1 hour
20	Transtentorial herniation	immediately
21	Transtentorial herniation	immediately
22	Transtentorial herniation	15 days
23	Subfalcine herniation, transtentorial and infratentorial herniation	4 days
24	Transtentorial and infratentorial herniation	5 days
25	Subfalcine and infratentorial herniation	7 days
26	Transtentorial herniation	4 hours
27	Subfalcine herniation, transtentorial and infratentorial herniation	6 hours

28	Transtentorial herniation	immediately
29	Transtentorial herniation	6 hours
30	Transtentorial herniation	immediately
31	Transtentorial herniation	until 1 hour
32	Infratentorial herniation	10 days
33	Transtentorial and infratentorial herniation	2-4 hours
34	Infratentorial herniation	4 days
35	Transtentorial and infratentorial herniation	7 hours
36	Infratentorial herniation	10 days
37	Infratentorial herniation	2 days
38	Transtentorial herniation	6 days
39	Transtentorial herniation	6 days
40	Transtentorial and infratentorial herniation	24 hours
41	Subfalcine and transtentorial herniation	7 days
42	Transtentorial herniation	2 days
43	Infratentorial herniation	3 days
44	Transtentorial and infratentorial herniation	minutes
45	Transtentorial and infratentorial herniation	8 days
46	Transtentorial herniation	2 days

Upon the data from the Table 2, it has been explored the interdependence between the occurrence of any type of herniation in the 46 of the examined cases and the survival time, presented on Table 3.

Table 3. The interdependence of survival time with the occurrence of the herniation in 46 of the examined cases.

No of cases, in total	Cases with herniation	Percentage
Until 10,5 days	42	91%
Until 2days, 6 hours	23	50%
Until 24 hors	14	30%

The results shown on the graph analysis (Fig. 1.) demonstrate that:
– in 91% of the cases with herniation, the herniation occurred within the first 10,5 days after the injury;
– in 50% of them, the herniation occurred in less than two days and 6 hours;
– in 30% of the cases, the herniation occurred within in the first 24 hours.

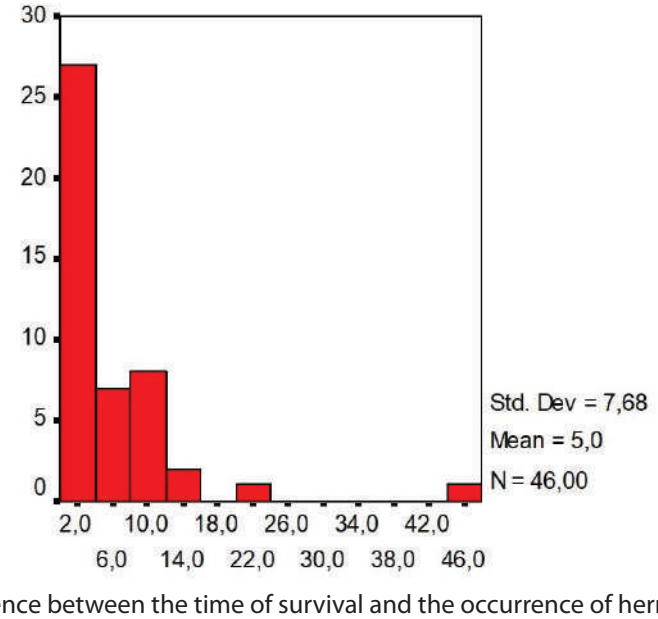

Fig. 1. Dependence between the time of survival and the occurrence of herniation.

Hence, 80 cases of fatal closed head injury in this study were analyzed with detailed forensic neuropathological examination [6, 13] for the occurrence of secondary brain changes resulting from the increased ICP.

Signs of internal herniation as the sequelae of the raised ICP were present in 57,5% of the examined cases, which is in accordance with other studies (56% by Adams et al. 1982 [2] and 55% of 85 examined cases by Adams et al. 2011[3]). Signs of transtentorial herniation (Fig. 2) have been found in 33 (41, 25%) of the cases. Signs of infratentorial herniation (Fig. 3) have been found in 27 (33,75%) of the cases, whereas signs of subfalcine herniation have been found in 9 (11,25%) of the examined cases. In a study with 434 analyzed cases [11], signs of transtentorial herniation have been found in two thirds of the cases, and signs of infratentorial herniation in 68% of cases.

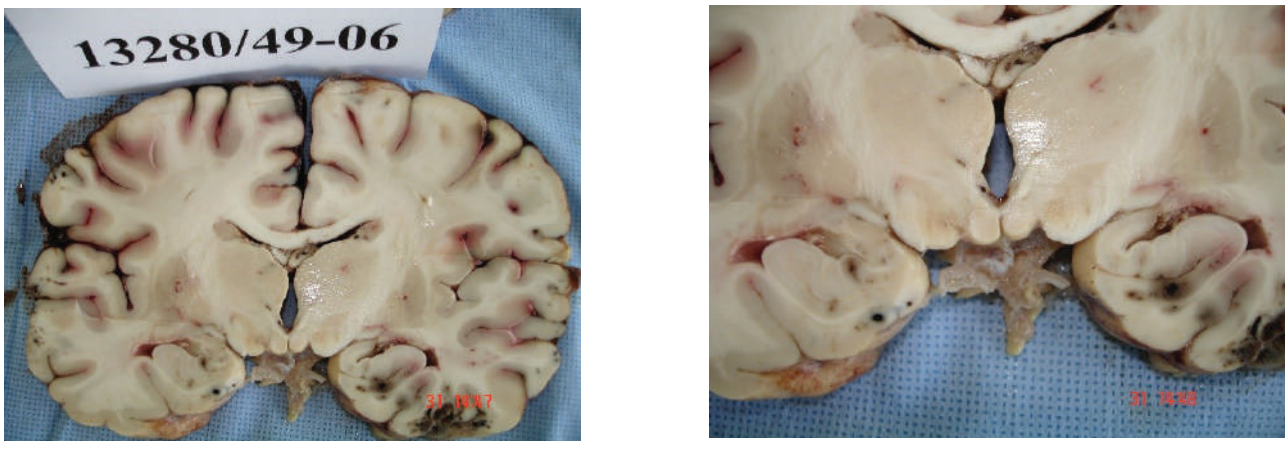

Fig. 2. **a. b.** Signs of transtentorial herniation. Transtentorial herniation. Case with survival time of 3-4 hours and the brain weight of 1.503 grams. On the section of the level of mammilary bodies have been seen hemorrhages in the hippocampus and the parahippocampal region on both sides.

Fig. 3. Signs of infratentorial herniation. Infratentorial herniation. The secondary Duret hemorrhages which are typically midline located in the midbrain and pons can be seen. a. Case with a survival of 7 hours and the weight of the brain of 1.487 grams; b. Case with a survival of 8 days and the brain weight of 1.512 grams.

In 91% of the cases with internal herniation, as shown by the results in this study, herniation occurred within the time frame of 10,5 days postinjury, implying that the threat of internal herniation is highest in the first 10 days after injury. Accordingly, in 50% of the cases herniation occurred in less than 2 days and 6 hours and in 30% of the cases it occurred in the first 24 hours. This analysis is mostly of clinical importance, obtaining information about the occurrence threat of internal herniation in cases with closed head injuries and possible time window for therapeutic intervention. From a forensic neuropathological point of view, besides the correlation with the survival time and proof for the existence of raised ICP ante mortem, this study emphasizes the morphological feature of herniation as it has been classically outlined [7,8,12].

Conclusion: Hence, the results of the present study show that in order to perceive the existence of the raised ICP during person has been alive, it is essential to perform postmortem the detail forensic neuropathological examination of the brain and to observe the signs of herniation as the sequelae of the raised

ICP. Herniation of the brain is deadly complication of closed head injury and in 91% of the closed injury cases it is going to occur in the first 10,5 days and in nearly half of them this deadly consequence can occur in the first 48 hours, which is of great clinical importance to take measures of avoiding them.

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FATAL INJURIES DUE TO BULLET FIREARMS

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***Summary*:** *Injuries due to firearms are a major public health problem, especially because they occur more frequently in young people, lead to human loss or disability of the population, and the mortality due to these injuries is greatly high. The work aims to highlight the frequency, dynamics, structure as well as some general peculiarities of lethal traumas produced by bullet firearms. The analysis includes 36 cases of fatal trauma caused by bullet, investigated at the Center for Forensic Medicine, during 2019-2023. The study determines that lethal trauma from bullet firearms accounts for 1.3% of all violent deaths and 59 % of all firearm deaths. More frequently, in 86% cases, men are traumatized, from urban localities, mainly in winter and summer months, and being drunk, which can be explained by their more frequent use of firearms for various purposes or this being a conception of interpersonal supremacy between men, as well as supremacy over women, respectively. The seasonal frequency can also be incident to annual holidays, in association with the consumption of alcohol. Mostly, the fatal injuries produced by bullets are localized at the level of the head, as transfixing wounds, and the death more frequently occurs at the people's home (aggressor/sufferer).*

***Keywords*:** *Firearm injuries, gunshot wounds, lethal trauma, violent death, traumatic objects*

Introduction: Injuries due to firearms are a major public health problem, especially because they occur more frequently in young people, lead to human loss or disability of the population, and the mortality due to these injuries is greatly high. [7]. They occupy an important place both in general medical pathology and in forensic practice, given the fact that most often of them result in the death of the victim, mainly in young people [8].

All over the world for the time being firearm injuries are widely accepted as a **public** health problem, due to their continuously increased incidence [1]. In this context, some contemporary forensic and social studies conducted in Central Asian countries indicate that firearm injuries represent an enormous burden and challenge for justice, health and national economies, given that they are predominantly produced for homicide purposes, including domestic assault, and the maximum incidence usually includes ages between 20-39 years, prevailing essentially men [6].

Similar research achieved in European countries regarding the rate of homicide by bullet firearms, shows that the number of victims due to this aggression is much higher in Eastern European countries (eg. Baltic countries, Bulgaria, Hungary, Croatia, Romania, Slovakia) compared to Western European countries, adding up to a correlation of 3:1, mainly among young people. [5].

Likewise, some authors note the presence of an exorbitant number of people who die every day from injuries caused by firearms, of which 59.07% are homicides, and the most common injured regions are: head, face and neck. [4].

Autochthonous and relatively similar researches have established that the incidence in the Republic of Moldova of cases of lethal head trauma by firearms integrates 0.3% of the total number of cadavers examined during the analyzed period, or 1.8% of the total violent death and 65.8% of the total number of deaths due to firearms. [3].

Asser H Thomsen and co-authors (2021), as a result of their research, show that most homicides in the world are caused by bullet firearms, and such us this field of investigation is of the legal medicine, a good understanding and elucidation of this phenomenon can be achieved by contribution of forensic medicine that provides scientific and practical evidence by using specific forensic investigations on death, the aspects that contribute essentially to the development of prevention policies: social, legal and medical in the field of interpersonal violence [2].

The obvious and existing problems of injuries by bullet firearms are multiple, difficult and quite complicated, and are attributed to forensic medicine for solving, by the criminal investigation officer, in order to assess and set the deed in the legal framework.

Thus, the high incidence of trauma produced by bullet firearms in association with increased mortality, reveals certain the medical-social importance of the problem in question and, respectively, it becomes obvious the need to study this problem, in order to establish and appreciate the frequency, dynamics, comparative structure, as well as the circumstances of occurrence of the fatal event.

Purpose of the research: The purpose of the paper is to highlight and appreciate the frequency, dynamics, structure, as well as some general peculiarities of lethal traumas caused by bullet based on forensic data from Chisinau, during 2019-2023.

Materials and methods: In order to achieve the goal, 36 observations of lethal traumas produced by bullet firearms, investigated in the Thanatology Department of the Center of Forensic Medicine, Chisinau, during 2019-2023, were studied. The selected material was introduced on individual information collection sheets and was analyzed by the following study methods: historical; analytical; comparative; mathematical-statistical; graphics. The processing of the material was carried out through the instrumentality of Excel, which allowed the calculation of rates, proportion indicators as well as testing the significance of relative and average values.

Results and Discussion: The study conducted allowed us to establish that the incidence of cases of lethal trauma due to firearms with bullets accounts for 0.32% of the total number of cadavers examined during the analyzed period (2019-2023). Furthermore, they add up to 1.3%, of the total violent death constituted, and 59% of the all-firearm deaths.

The incidence of this phenomenon, especially in the structure of violent death, comparing the data obtained by us with the research previously conducted by some authors [6], there is a decrease in cases of injuries by bullet firearms, which represents a commonwealth for the entire society in all aspects (social, medical, legal).

The examined cases during the research period had an oscillatory evolution, and their dynamics being fully presented and presented in Figure 1.

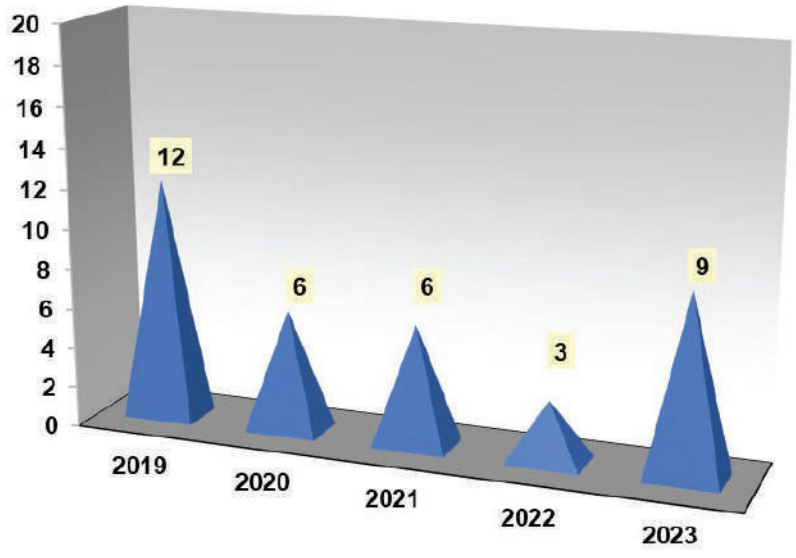

Fig. 1. Dynamics of lethal injuries by bullet firearms during 2019-2023 years.

Thus, according to the study carried out and as seen in the figure, the most common fatal injuries were produced in 2019 and 2023, therewith, in 2020 and 2021, the number of lethal cases produced by bullet firearms was equal, 6 cases for each year, and in 2022 only 3 cases were attributed to the analyzed lethal phenomenon.

The low number of cases overlaps with the social restrictions during the COVID-19 pandemic period, which demonstrates the social aspect and interpersonal relationships of firearm using.

Following the analysis of cases according to the gender criterion, it has highlighted the following important structural aspects, thus, it was found that, in 86% of cases, as a result of fatal injuries by firearms with bullet, male persons died, and in 14% of observations victims became females, similar results being obtained by other researchers of this phenomenon [6].

It was established that more frequently (72.2%) died people in urban localities, compared to rural ones, where death as a result of fatal injuries occurred in 27.8% cases, which shows that in cities firearms are used much more frequently for various purposes (self-defense, homicide, suicide, etc.).

Analyzing the research data according to the age of the victims, it was found that as a result of lethal traumas caused by bullet firearms the age groups of ≤ 19 years prevailed, such as 20-29, 30-39, 40-49 and 50-59 years, and their sum was 88.9% of the total number of cases registered, during the analyzed period. In the same research context, based on the residence, it was found that in cities the death of persons, as a result of injuries produced by bullet firearms, occurred much more frequently in men in 84%, compared to women 16% of observations, in rural areas also predominantly male deaths. Thus, men died in 87% of cases and women only in 13%, showing an approximate correlation of 3:1, and the differences between mortality from fatal injuries from bullet firearms on residential environments relative to the sex of victims were not statistically significant ($p > 0.05$).

Therefore, men are much more frequently exposed to injuries by bullet firearms, regardless of their residence, which is due to their more frequent use of given weapons for various purposes, or respectively this (the presence of weapons) could be a conception of interpersonal supremacy of men as well as women, including products also in the case of domestic violence.

Studying the incidence of lethal cases produced by bullet firearms, depending on the seasons of the year allowed to highpoint the following peculiarities: thus, in 42% of cases, death as a result of fatal injuries by firearms occurred in winter, in 28% fatal injuries were produced in summer. In third place, in 20%, are cases of injuries by firearms with lethal consequences, produced in autumn, and less frequently, in 10%, death occurred in spring.

Thus, based on the above, we can say that deaths by firearms with bullets have essentially prevailed in winter and summer and much less often in other seasons This seasonal features could also be explained by the fact that during these periods of time people are most often on annual vacations, holidays, being

associated with entertainment and excessive alcohol consumption, that can bring to the emergence of interpersonal conflicts and the use of firearms.

The calendar analysis of the data shows that bullet injuries were most commonly determined in December, January, February and July, followed by June, September, October and then less frequently the other months (Figure 2).

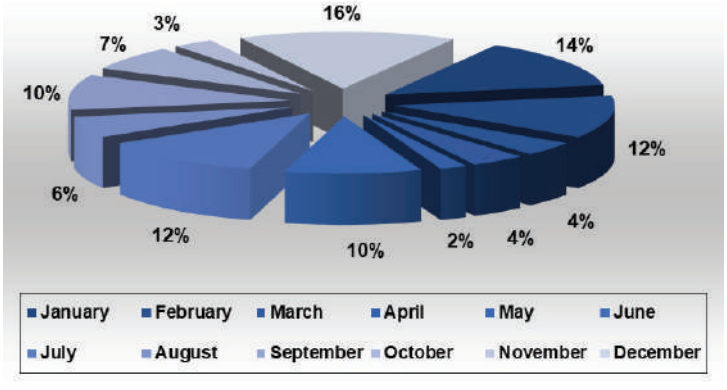

Fig. 2. Incidence of fatal injuries due to bullet firearms by month

Our research has established that lethal trauma caused by bullet firearms, depending on the anatomical region of the body, was localized diversified.

Thus, our study reveals that injuries produced by bullet firearms were found on various anatomical regions of the body and presented the following structure. (Figure 3).

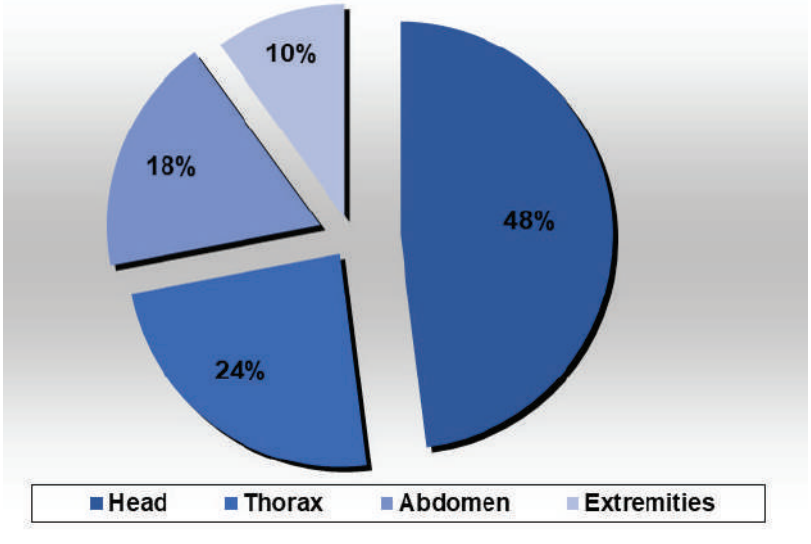

Fig. 3. Localization of injuries by bullet firearms depending on the injured anatomical region.

So, as can be seen in the figure presented, gunshot wounds were most commonly circumscribed on the head region (48% of observations), in 24% cases trauma by bullet firearms was found on the chest, and in 18% cases fatal injuries produced due to bullet were localized on the abdomen. Much less often this trauma was described on other regions of the body. The most common localization of bullet injuries on the head can be explained by using the both homicide and suicide manners, the cephalic region being the most accessible vital anatomical region of the body.

Our research has established that injures due to firearms with bullets were isolated in 68.21% ± 1.65%, at the level of the head, chest or abdomen Other observations 30 ± 1.25% there was an association of different anatomical regions, as head-thorax; thorax-abdomen; head-abdomen, etc.

Depending on the type of wounds, it was found that more frequently (69%) transfixiant wounds occurred and only in 31%, bullet injuries were blind.

Our study reveals that in the structure of lethal cases by bullet, according to the place of death, it was established that more frequently, in 53% of cases death occurred at people's homes (aggressor/victim), followed by deaths in the street (32%) and only in 15% cases death occurred in medical institutions of different levels. On the same note, we mention that deaths produced by bullet firearms and localized on head occurred more frequently at home, in 49.43%, followed by deaths occurred on the street (33.33%), and much less often deaths due to head injury installed in hospitals. This fact can be explained by the injury volume and severity of trauma, practically incompatible with life in such cases. At the same time, deaths as a result of fatal injuries produced on the chest / abdomen were distributed practically equally, being present at home, street and medical institutions.

According to toxicological investigation of the blood of deceased persons, the victims consumed alcoholic beverages before the trauma only in 38% of cases. The distribution by alcoholemia of victims and clinical manifestation, usually associated with living persons, is as follows: 4% were under an insignificant influence of alcohol (less than 0,5‰ of alcohol in blood); 12% - slight inebriety (0,5-1,5‰) 14% - medium inebriety (1,5-2,5‰), and 5% - serious inebriety (2,5-3,0‰). There were also cases (3%) of serious alcoholic intoxication (more than 3,0‰), even lethal concentrations of ethyl alcohol up to 6‰. (Figure. 4).

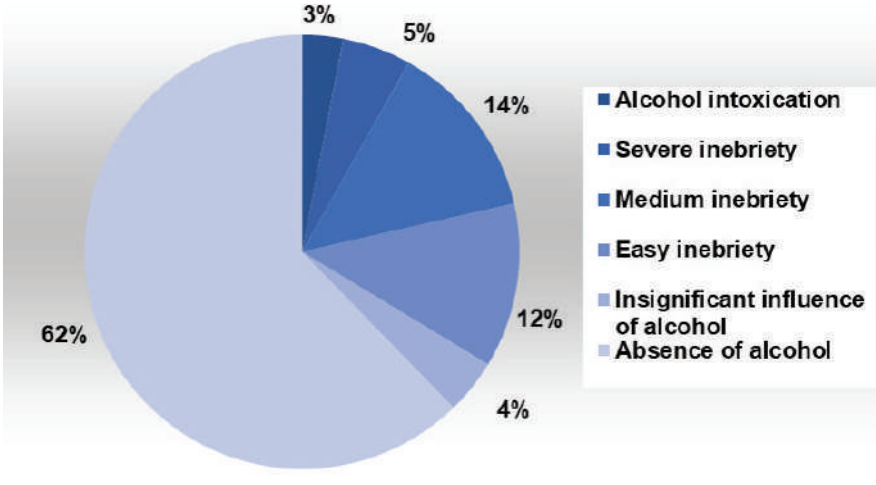

Fig. 4. Degree of alcoholemia, in deaths as a result of trauma by bullet firearms.

In the same context, research found that the most frequently the alcohol was used by women 58%, compared to men (42%), regardless of the residential environment, overall cases of alcoholemia being more frequently found in urban areas, but the differences were statistically insignificant.

The major incidence of more frequent alcohol use in women is due to the more changeable and labile behavior of women, to the action of various stressogenic factors, emotional impairment as well as due to domestic violence, including the background of alcohol use.

Conclusions: Our study established that the incidence of fatal trauma caused by bullet firearms accounts for 0.32% of the total number of cadavers examined during the analyzed period, 1.3% of all violent deaths and 59% of the deaths caused by firearms (bullet / shot)

Gunshot deaths less were registered during the Covid-19 pandemic period, which emphasizes the relational aspect of the phenomenon.

In 86% cases, as a result of fatal injuries by firearms died male persons, and only in 14% victims became females, more frequently (72.2%) died people of urban localities, and more frequently fatal injuries by bullet occurred in winter and summer, that amount to 70%.

Most frequently the lesions were localized on the head region (48%), less on the chest (24%), and much less on the other regions were stablished.

The place of lethal firearm events was more at the victim's or aggressor 's home (53%), followed by deaths in the street (32%) and only in 15% cases death occurred in medical institutions of different levels. In 38% of observations, victims consumed alcoholic beverages before the trauma, and victims were predominantly in a state of slight and medium inebriety.

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A CASE OF RAPE WITH VIOLENT BEATING OF THE VICTIM

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***Summary*:** *The problem of sexual violence and violence against women is a serious social and global issue that has a significant impact on victims, families and society as a whole.*

The article deals with the case of rape in the practical activity of experts of the Chernivtsi Regional Bureau of Forensic Medical Examination. The importance of the efforts of social services and the police in preventing and protecting the rights of victims of violence, as well as increasing public awareness of this problem, is emphasized. For its effective solution, it is necessary to pay attention to the development of equal and fair structures of society, which ensure the protection of the rights and safety of all its members. Gender education and psychological support are key factors in preventing sexual violence and providing support for victims. Society must confront gender stereotypes and the culture of violence that supports sexual violence. This may include developing programs in schools and communities that promote healthy relationships and respect for others.

The governments of the countries of the world need to adopt and implement strict laws that will ensure fair punishment of the guilty, as well as develop rehabilitation programs for victims of this type of violence.

***Keywords*:** *rape, forensic medicine, violence*

Introduction: Rape and violence against women is one of the most serious problems of modern society, which leaves deep traces both on the lives of the victims and on the general dynamics of public health. This question arouses increased interest not only because of its emotional and social significance, but also because of the complexity of its understanding and solution [1, 2].

According to the World Health Organization (WHO), rape is defined as any type of sexual act or attempted sexual act without the consent of the victim, which may include physical violence, threats or other forms of coercion. Rape is a serious violation of human rights and is a form of sexually violent behaviour that can lead to physical and psychological consequences for the victim [1-3].

Statistics on sexual violence can vary significantly by country, data source, and research methodology. However, according to the WHO, more than 35% of women worldwide have experienced physical or sexual violence by a partner or sexually motivated violence at least once in their lives [2, 3]. This is a problem that exists in all countries and at all levels of society, regardless of social status, ethnicity, age, and other factors [1-4].

Sexual violence can have severe consequences for victims, including trauma, mental health problems, post-traumatic stress disorder, depression and other mental health problems. Physical consequences can include injuries, sexually transmitted infections, pregnancy due to violence, and many other health problems [5-8].

The problem of sexual violence is the result of systemic inequality and gender stereotypes in society, which contribute to the spread of sexual violence and make it difficult to combat this phenomenon. Women and girls are more often victims of violence due to inequality in power, social status, economic dependence, cultural norms, etc. [6]. In many countries, there are gaps in the legislation regarding the protection of women from sexual violence.

A separate problem is cultural norms that can support and legitimize sexual violence or question women's right to refuse sexual relations. Women are often portrayed in the media and advertising as objects of meeting the sexual needs of men, who, in their opinion, have the right to do so regardless of the woman's consent or desire [6, 7].

Many women feel afraid and stigmatized about disclosing information about abuse, which can prevent them from seeking help. This can lead to the maintenance of a culture of silence and impunity for criminals [8].

Solving the problems of sexual violence and violence against women requires systemic changes in society, which include the strengthening of legislation, the development of psychological support for victims, and the improvement of gender education for young people. As part of the forensic examination, we have the opportunity to more deeply reveal the physical and psychological research that the dismissal causes in the victim. This approach is important not only to ensure justice in judicial processes, but also to develop effective strategies to prevent and counter violence in all its forms.

The purpose of the work: To demonstrate a case of rape that takes place in the practical activities of forensic medical experts of the Chernivtsi Regional Bureau of Forensic Medical Examination, as an example of violence against women.

Materials and methods: The work used archival material of the Communal Medical Institution "Regional Bureau of Forensic Medical Examination" of the Medical Care Department of Chernivtsi Regional State Administration, regarding the forensic medical examination of the victim citizen O., born in 2001, in the Department of Forensic Medical Examination of Victims, Accused and Others Persons.

Results: During the above-mentioned forensic examination, the following circumstances of the case were considered: at approximately 04:00, the accused, being intoxicated, near the building. 3, which is on the street A. in the city of Chernivtsi, aiming to rape citizen O., applied physical violence to the latter and tried to engage in sexual intercourse against the will of the victim, but did not carry out his criminal plan to the end for reasons beyond his control in connection with the resistance of the c. O.

From the words, citizen O.: "On October 2, 2023, around 4 o'clock on the street And in the city of Chernivtsi, an unknown man ran up, grabbed me by the hair and threw me to the ground, covered my mouth and began to pull me into the bushes, during this I tried to grab the bushes, he sat on me, I fought back, scratched his face, he put his hand in my pants and tried to rape with a finger. He then try to perform oral sex with me during which I have bit his penis. After that, he began to inflict numerous blows with his fists on my head, strangling. When he strangulating me, there was slight cloudiness in my eyes. Then he tore my pants and tried to perform vaginal intercourse, which he could not finish, then inserted his finger into the vagina. She did not lose consciousness. She did not seek medical help."

Special anamnesis: First period at age 13, 4-5 days every 25 days, regular, sometimes painful, sometimes slight, with moderate discharge. Last period two weeks ago. Previously sexual intercourse she denies. Denies tuberculosis, venereal diseases.

Complaints: pain in the places of damage, restriction of movements of the 3rd-5th fingers of the right hand, pain in the genital area, inability to breathe through the left nostril.

Objectively: correct physique, satisfactory nutrition. The mammary glands are round, elastic, well developed, the peri-nipple fields are well defined, light brown in diameter up to 2.8 cm, the nipples protrude 0.5 cm. There is no discharge when mammary glands are squeezed. When examining the genitals around and in the vagina, there are layers of dirt and dried leaves and grass. There are 5 small abrasions around the labia majora, sizes from 0.1 x 1.0 cm to 0.1 x 1.5 cm, with a red bottom located below the level of intact skin. The external genitalia are developed correctly, according to the female type. Hair on the labia majora is well expressed throughout, the latter completely cover the labia minora and cover the genital slit. The labia minora and vagina are pink throughout. The hymen is ring-shaped, fleshy, up to 0.6 cm high. At 8 o'clock of the conventional clock face, there is a rupture of the hymen to the base, the edges of the rupture are red-bluish in colour, the edges are bleeding.

Injuries. External investigation: numerous inclusions of dry leaves in clothes and hair are noted. Bluish-red hematoma in the left frontal-temporal area, 10.5x7.0 cm in size, soft tissues in this area are swollen,

painful on palpation, hot to the touch. A bruise of a pale bluish colour with indistinct contours is located on the upper and lower eyelid of the left eye, measuring 3.0x3.5 cm. Bruises of similar properties are located: in the left behind the ear area, measuring 6.5x2.5 cm; on the left upper lip, 1.5x2.5 cm in size, with swelling of soft tissues; on the forehead on the right almost at the border with the hair part of the head, dimensions 4.0x4.5 cm; on the back surface of the left hand, measuring 6.0x7.0 cm; in the middle and upper third of the outer surface of the right thigh, numerous, of different shapes, sizes from 1.0x1.5cm to 2.0x3.5cm; in the area of the left knee bend on the inner surface, oval-shaped, 1.5x2.0 cm in size; in the upper third of the left thigh along the front-inner surface, measuring 2.0x3.5 cm; on the 4th finger of the left hand on the palmar inner surface, measuring 3.0x1.5 cm; in the left iliac region, measuring 4.0x4.0 cm; on the outer surface of the right thigh in the upper third, measuring 4.0x2.5 cm; in the middle third of the right thigh on the outer surface, measuring 6.5x7.0 cm; in the lower third of the right thigh on the outer surface, measuring 4.0x3.0 cm. In the projection of the arch of the lower jaw on the left, it is crescent-shaped, 0.2x0.8 cm in size, the bottom is located below the level of intact skin. The abrasions of similar properties are located: in the area of the corner of the lower jaw on the left, measuring 0.2x1.0 cm; in the area of the chin on the left, measuring 0.1 x 2.5 cm; in the area of the right cheek, measuring 0.1x1.0 cm; on the forehead on the right, measuring 2.5x0.1 cm; on the 3rd finger of the right brush along the inner surface to the 4th finger of the 2nd phalanx, measuring 0.1x1.0 cm; on the back surface of the right wrist at the base of the 1st finger, measuring 2.5x1.0 cm; in the projection of the right carpal joint along the radial surface, measuring 0.2 x 2.0 cm; small bruises on the back surface of the left hand, on an area measuring 2.5x1.0 cm in the number of 4, against the background of the above-mentioned bruises, measuring 5.0x5.0 cm; in the upper third of the right thigh on the outer and back surface in the number of 3, linear in size, from 0.1x3.5cm to 0.1x4.5cm; on the right buttock in the amount of 3, linear in shape, sizes from 0.2 x 2.0 cm to 0.4 x 3.5 cm. A superficial wound on the 4th finger of the right palm in the projection of the 2nd phalanx of a crescent shape, measuring 0.5x0.1 cm and on the 5th finger of the right palm of the 2nd phalanx on the palm surface, measuring 0.7x0.2 cm and the 3rd phalanx of the 5th finger of the right hand on the palmar surface, measuring 0.2x0.5 cm. A wound on the inner surface of the mucous membrane of the upper lip on the left in the projection of the 4th tooth, measuring 0.3x1.3cm and on the upper lip on the right on the mucous membrane, measuring 0.2x0.8cm.

Swabs-tampons were taken from the vagina citizen O., born in 2001 for the presence of spermatozoa.

On October 3, 2023, a certificate from the trauma department of the Chernivtsi Emergency Medical Service Hospital was provided, in which the diagnosis is indicated: Brain concussion? Paraorbital hematoma on the left. Contusion of 3-5 fingers of the right hand. Subcutaneous hematomas of both lower legs and thighs. Consultation with a neurosurgeon is recommended. 02.10.2023 neurosurgeon: at the time of data review, no neurosurgical pathology was found. Diagnosis: bruises, sore face. X-ray of the skull shows no bone pathology.

During the examination on the gynaecological chair of citizen O., born in 2001, a violation of the integrity of the hymen at 8 o'clock of the conventional clock face was revealed, with bleeding haemorrhages. There are leaves, grass, and dirt around the genitals and in the vagina. Smears taken. Sanitation of the vagina with antiseptics was carried out.

Data of forensic immunological research: in smears and on tampons from the vagina of c. O., born in 2001, no sperm found.

The data of the forensic medical examination described above citizen O., born in 2001, made it possible to make the following conclusions:

1. These injuries found on the body of citizen O., born in 2001, occurred as a result of at least 55 traumatic actions of hard blunt objects, most likely during struggle and self-defence, according to the term may correspond to the specified circumstances and belong to simple bodily injuries, which led to a short-term health disorder.

2. Violation of the hymen is noted in citizen O., born in 2001, the date of this injury corresponds to that indicated in the resolution, namely on 02.10.2023, quite possibly as a result of inserting fingers into the vagina or a tense penis.

Conclusions: The problem of sexual violence against women is extremely complex and disturbing. To solve this problem, it is necessary to combine the efforts of all spheres of society, including the government, the public, medical and legal services, public organizations and other interested parties.

Gender education and psychological support are key factors in preventing sexual violence and providing support for victims. Society must confront gender stereotypes and the culture of violence that supports

sexual violence. This may include developing programs in schools and communities that promote healthy relationships and respect for others.

The governments of the countries of the world need to adopt and implement strict laws that will ensure fair punishment of the guilty, as well as develop rehabilitation programs for victims of this type of violence.

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FORENSIC MEDICAL EXAMINATION AS A KEY ELEMENT IN THE INVESTIGATION OF DOMESTIC VIOLENCE CASES IN BULGARIA

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Summary: *Forensic medical examination emerges as a critical element in addressing domestic violence cases in Bulgaria, offering an impartial mechanism to collect essential data, traces and evidence for judicial processes. This review emphasizes the necessity of detailed anamnesis to understand the incident context and relationships involved, while also addressing the emotional challenges faced by victims during examination. The trust and credibility of forensic medicine are pivotal, with suggestions for enhancing public confidence through professional conduct, strategic facility placement, and transparent operations.*

Key improvements proposed include disseminating educational materials within medical settings, establishing a centralized funding mechanism for forensic medical examinations in domestic violence scenarios, and introducing specialized training for 'forensic nurses' to support evidence collection and victim assistance at first response medical facilities. These measures aim to refine the forensic examination process, ensuring effective support for victims and the provision of critical evidence for legal adjudication.

The streamlined forensic medical process is vital for the effective documentation and legal resolution of domestic violence, highlighting the need for procedural enhancements, international standardization, and specialized training to bolster the role of forensic medicine in Bulgaria's response to domestic violence.

Keywords: *domestic violence, clinical forensic medicine, medico-legal investigation*

Introduction: Domestic and gender-based violence, unfortunately, has existed since the emergence of the human species. This effectively renders the issue quite challenging to address, especially in ethnic

cultures with a strongly developed patriarchal family model. The fight against domestic violence requires the collective effort of a vast array of institutions and professionals, including forensic medical experts. This problem is current both on an international scale and in the practices of various countries and institutions, where research is conducted, and effective solutions are sought to reduce the incidence of violence [1-6]. Forensic medicine in Bulgaria is recognized as a medical specialty that studies and develops methods for solving a wide range of medico-biological questions arising in the work of law enforcement agencies. Every medical student in their core course of study (5th year of 6 in total) studies the basics of forensic medicine. However, to acquire in-depth and comprehensive knowledge in the specialty and its practice, further training and obtaining a recognized specialty in Forensic Medicine are necessary. We need to analyse the problems in the forensic medical examination of domestic violence and to pinpoint the possible decisions to be made in the future.

Materials and methods: Organization of Forensic Medicine in Bulgaria: In Bulgaria, forensic medical activity has a decentralized organization [7, 8]. According to the regulatory framework of the Republic of Bulgaria, each district hospital is required to ensure the operation of forensic medicine activities, i.e., no less than 28 regional structures performing forensic medicine activities. Furthermore, every university conducting educational activities in the field of "Medicine" must have a Department of Forensic Medicine and Deontology, which can also perform forensic medical activities at the respective university hospitals. In addition, it is possible to establish forensic medicine structures in other medical facilities and private forensic medicine offices, analogous to all other medical specialties. Practically, in all district cities in Bulgaria, there are structures conducting forensic medicine. In almost all district cities, forensic medical activity is carried out in one structure, where there is most often one specialist in forensic medicine appointed.

Relation of Forensic Medicine to domestic violence: In forensic medical structures in Bulgaria, in addition to other forensic medical activities, forensic examinations of living individuals (so-called forensic medical examination) [9] are also conducted. Forensic medical examination is the usual forensic medical investigation in cases of domestic violence. In cases of domestic violence, those related to physical or sexual assault are subject to forensic medicine. The forensic medical examination in cases of domestic violence, as in other cases, aims for the impartial, detailed documentation of traumatic injuries and other traces, as well as the collection of biological materials for further studies, based on which it can be reasonably identified the type of violence, the mechanism of injury, the damaging surface, the authorship of the violence, etc. In cases of domestic violence, the subjects of forensic medical examination are both the presumed victims of domestic violence and the suspects and accused of committing such. In Bulgaria, every doctor can and is obliged to issue a medical document for traumatic injuries incurred during domestic violence, but in practice, for the effective administration of justice, all cases are served in one form or another by Forensic Medicine specialists. It should be noted that in Bulgaria, the term "domestic violence" is legal form and is not directly used in forensic medical science; cases of domestic violence typically fall under the category of "Forensic medical examination of living individuals to determine bodily injuries and medico-biological signs/grading of bodily harm" or "Forensic medical examination of living individuals to determine sexual status and gender manifestations." In this regard, in Bulgaria, the approach of forensic medicine specialists to victims of domestic violence does not differ from the approach to victims of other incidents (domestic trauma, road traffic accidents, occupational accidents, etc.). Rather, the type and scope of the forensic medical examination depend on the specific circumstances of the incident and the type of injuries and traces sought.

Cases of death due to domestic violence, which are not infrequent, will remain beyond the scope of this text.

Procedural forms of forensic examination in cases of domestic violence (without resulting in death) in Bulgaria: In practice, in Bulgaria, the forensic examination of individuals in cases of domestic violence can be conducted under three different procedural forms. In these forms, the medical examination itself is identical, while differences stem from the procedural order of the examination and the procedural role of the forensic medicine specialist.

Clinical forensic medical examination - represents a forensic medical examination, similar to all other medical examinations, carried out in a medical institution according to the respective regulations of the medical institution, usually at the request of the examined individual or their legal representative (parent or guardian). This type of examination issues a medical document titled Forensic Medical Certificate. This is the usual and most commonly used method for forensic medical examination of victims in cases of domestic violence. Its advantages are that it is a relatively widely accessible method for documenting injuries from

domestic violence, and the description method is significantly more detailed than usual medical examinations, but its disadvantages are related to the need for the victim to pay for the service, as there is no central funding in Bulgaria for this type of activity. Another disadvantage is that it is relatively rare for both parties involved in domestic violence cases to be examined.

Forensic medical examination within the framework of an appointed medico-legal expertise - this type of forensic examination is carried out according to Section III of the Criminal Procedure Code (CPC, Section Expertise), by appointing an expertise with the object of study - the presumed injured party or the suspect of committing domestic violence (crime). In this type of examination, the forensic medicine specialist has the status of an expert witness and prepares a Medico-legal Expertise. The advantages of this method are the procedural status of the examination, the absence of a need for payment by the examined individual, and the possibility of examining both the presumed victim and the suspect. A possible disadvantage may be the need to engage investigative bodies, but according to Bulgarian legislation, they must be engaged anyway in the presence of bodily harm and sufficient grounds for domestic violence.

Examination of an individual according to the Criminal Procedure Code (CPC) - in this case, the examination is conducted according to Section IV of the CPC (Expertise), allowing the description to be made by the investigating authority, in the presence of attesting witnesses, and in the absence of a doctor. There is a requirement for this examination to be conducted by a doctor only in cases where the examined individual needs to be undressed and the investigating authority is of the opposite sex to the examined individual. In this form, the investigating authority prepares an examination protocol. This method of examination is not recommended for cases of domestic violence and should be applied only if a forensic medicine specialist cannot be provided. It boils down to describing clothing and stains, as well as collecting biological materials (swabs) by forensic specialists, but bodily injuries can be accurately documented only by a medical specialist, and it is highly recommended that the same be a specialist in forensic medicine. The only advantage of this method is that it allows for the examination of both the presumed victim and the suspect in committing domestic violence, as well as the possibility of collecting biological materials and swabs for further studies.

In practice, in the absence of a forensic medicine specialist, the description of injuries in cases of domestic violence can also be made by any doctor, within the framework of an outpatient examination or by the treating doctor during hospital stay. According to Article 4 (3) of the Law on Protection from Domestic Violence, upon request of the injured party, every doctor is obliged to issue a document, in writing, to certify the injuries or traces of violence observed by them. After preparing such a document, it is advisable, if possible, to conduct a second-stage forensic medical examination by a specialist in forensic medicine, taking into account the documentation from the primary medical examination.

Timing and Priorities in Conducting Forensic Medical Examination:

A frequently asked question in practice is - Within what timeframe can a forensic certificate be issued? The answer is that a forensic medical examination can always be conducted and a forensic document can be issued, but it makes sense to perform it within the timeframe in which the forensic expert can identify (find) and document the injuries themselves, i.e., while the injuries have not fully healed and biological traces (if any) are suitable for evidential material. The most appropriate time for conducting a forensic medical examination to determine traumatic injuries is within the first few days after the incident, but if there is a delay, it makes sense to perform it until any traces of the injury can be observed. In principle, an examination to determine traumatic injuries tolerates certain delays of several days, even in some cases (subcutaneous haematoma), the visible traces of traumatic injuries are better expressed on and after the second day. Of course, as injuries fade, the possibilities for interpretation by the forensic expert significantly decrease. Nevertheless, a delay of 2-3 days usually does not change the effectiveness of the examination in terms of documenting traumatic injuries.

In cases where traumatic injuries have led to a serious deterioration of the general health condition, it is recommended that the forensic examination be conducted after stabilizing the condition, to reduce discomfort and risk to the patient. If the injured party is admitted to a hospital, the forensic examination can also be performed in the hospital room. It should be considered that the most quality forensic medical examination can be performed in specialized forensic medical offices.

In cases with injuries to internal anatomical structures (bones, tendons, internal organs, etc.) that require additional examinations, it is advisable to first perform a clinical examination by the respective medical specialist (e.g., orthopedist, surgeon, etc.) and conduct the relevant examinations (imaging, functional, and laboratory), followed by a forensic medical examination. This avoids the possibility of missing internal

injuries and unnecessarily distressing the injured, and most importantly, avoids the possibility of missing life-threatening conditions, where delay can have serious consequences.

In all cases, the life and health of the injured party are the priorities, and only then comes the documentation of injuries for the purposes of justice. Especially in cases of severe life-threatening injuries, if the forensic examination cannot be carried out concurrently with the diagnostic-treatment process, it is deferred to a second stage, as of course, the treating doctors should thoroughly describe in the medical documentation the findings they have observed, which should be considered in the subsequent forensic medical examination.

In cases of domestic violence involving traumatic injuries, the collection of biological materials for determining authorship is usually not required, as it is presumed that the parties involved in the incident have constant contact with each other.

Unlike documenting traumatic injuries, in cases requiring examinations to determine sexual status and gender manifestations (especially sexual abuse cases), it is highly recommended that the examination be performed within reasonably short time by a forensic medicine specialist, preferably in their procedural capacity as an expert witness, as in this type of examination, the collected samples and biological materials often have decisive significance. Exceptionally, in the absence of a forensic doctor, samples can be collected by another doctor (e.g., gynecologist), but with the methodological and technical (e.g. for packing the evidence) assistance of an expert from the forensic department (BNTL) of the Ministry of Interior (MOI). In such cases, it is advisable, if possible, to conduct a forensic medical examination by a forensic medicine specialist at a second stage.

Results and discussion: Maintaining the neutrality of the forensic medical specialist: Often in practice, in a domestic conflict, all participants in the conflict may have traumatic injuries that are subject to forensic examination, and it is impermissible for the forensic specialist to be involved as a party in the process (investigation), determining who is the victim and who is the aggressor. It should be considered that not all traumatic injuries result from violence and not always there are traumatic injuries in cases of violence. Forensic medical specialists, due to the nature of their special knowledge, are commonly used in Bulgaria by investigative bodies and courts as expert witnesses and are listed in the expert witness lists (formal registers). Thus, if a forensic medical specialist takes sides in such a dispute, they should recuse themselves as an expert witness. This, in turn, will lead to difficulties in finding unbiased expert witnesses. Due to this special status and the relatively small number of them on both regional and national levels, forensic medical specialists should remain neutral when resolving cases of domestic violence, to impartially fulfill their role as expert witnesses.

The primary goal of the forensic specialist in conducting the forensic examination is to impartially collect the maximum number of objective facts and evidence, based on which to make reasoned analyses and conclusions, through which the competent authorities can reach correct decisions on cases of domestic violence.

We want to emphasize once again that, in general, medical specialists are not particularly competent to qualify whether or not it concerns domestic violence and whether the examined individual is a victim of such. We believe it is exceptionally risky to give such qualifications at the stage of the medical examination, even by experienced forensic medicine specialists. This assessment should be left to the competent authorities, after gathering sufficient information on the case. In this regard, from an operational point of view, we believe it is appropriate to introduce the term "Cases suspected of domestic violence."

The role of anamnesis in forensic examination: In conducting a forensic examination, besides the identification of the patient and the detailed description of traumatic injuries according to forensic rules, it is crucial to take a detailed history of when and where the incident occurred, how the injuries were sustained, with what means and by whom they were caused, as well as other information depending on the specifics of the case. To identify cases as suspicious of domestic violence, it is necessary for the anamnesis to reflect not the name of the person who caused the injuries but their relationship with the examined individual, e.g., a relative, spouse/partner with whom they live on a familial basis, or with whom they have a child in common, or with whom they live in the same residence for some reason. In cases suspected of domestic violence, the same rules are recommended when conducting a general medical examination by a doctor who is not a forensic medicine specialist. This approach allows, in addition to identifying individual cases of domestic violence, the performance of statistical/epidemiological analysis regarding frequency, type, severity, etc. In cases suspected of domestic violence, the injured individuals are often emotionally labile,

which requires the forensic specialist to exhibit tact and patience, while still maintaining the objectivity of their assessment unaffected by these emotional factors. It should be noted that it is not uncommon for examinees to attempt to deceive forensic specialists.

The social image of the forensic medical institution and trust in it: The development and maintenance of a certain image and trust in the forensic institution are crucial to its role. Without trust, forensic medicine cannot function in practice. Every element of forensic procedures and the material base of forensic medicine structures must be designed to be practically effective, to build a certain image and increase the public's trust in forensic medicine and forensic specialists. In this direction, it is considered that forensic medical offices for examination of living persons should be located in recognized large hospital facilities, medico-legal institutes or medical centers, not in private apartments etc. Investigations should be conducted by a team – at least a forensic doctor and a technical assistant, following a corresponding procedure. All team actions should demonstrate a serious and professional attitude. Photographing injuries for the protocol during the examination (not adopted by all forensic doctors in the country) and paying fees at a cashier, outside the examination office (not inside), are also believed to contribute to strengthening trust in the institution. A step in this direction is the adoption of a standard in forensic medicine in Bulgaria, which incorporates some of these requirements, enhancing trust in the institution. It is necessary to pay significantly more attention to this element in the conduct of forensic activities. Solutions to domestic violence issues have been undertaken at an international level, studied in particular by institutions and local structures [10, 11, 12]. However, not all developed international guidelines and standards are applied at the national level.

Conclusion: What can be done to assist victims of domestic violence: The question logically follows, what can be done for a more objective and effective resolution of domestic violence cases from the perspective of forensic medicine (specific and more general solutions):

Placing explanatory informational materials in suitable places in the waiting areas of forensic offices, as well as in emergency rooms and departments, and personal doctors' offices would be beneficial.

A central funding mechanism for forensic examinations in cases of domestic violence could be developed.

During forensic examinations, forensic medicine specialists, without becoming biased, can advise examinees to seek help from the relevant institutions. It is quite common in practice to conduct another forensic examination of victims who do not take any action after receiving the document from forensic medicine.

It is advisable to adopt standards and rules developed internationally in this field, following harmonization with domestic regulations [13, 14, 15].

In the near future, due to a shortage of forensic doctors and to improve the initial response when seeking medical help by victims of violence, training for nurses could be developed for the qualification of so-called "forensic nurses" – both as assistance to the forensic doctor and as first aid in emergency departments and with general practitioners [16].

The main role of forensic examination in cases of domestic violence is to impartially collect and document the objective traces/evidence needed by competent investigative and judicial bodies to reach reasoned decisions on cases of domestic violence. An additional role is discreetly directing the victims to take active protective actions and connect with organizations providing further assistance and psychological support. Collaboration between all responsible institutions and supporting non-governmental organizations is especially important.

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ADRESSING THE ROOT CAUSE OF VIOLENCE AGAINST WOMEN FROM A ROMANIAN FORENSIC PERSPECTIVE

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Summary: *Introduction. The violence against women sadly represents a highly prevalent phenomenon, in recent years Romania has faced a concerning increase in violence against women and domestic violence in particular. This dark reality underscores the need for urgent and coordinated action by state institutions, NGOs, and civil society, being a harsh reality in forensic medicine. Purpose of the research. The aim of this paper is to highlight the problems that contribute to domestic violence especially violence against women in Romania based on our daily forensic practice, pointing out some possible solutions. Materials and methods. We identified a complex etiology underlying this phenomenon, with real limitations imposed by administrative data collection in Romania, hindering the fair assessment of public policies and current legislation. Results. Based on the data colected for 2021, women represent the lead majority of domestic violence cases. 23,498 women suffered assault or other acts of violence, 4,431 were threatened (according to Article 206 of the New Criminal Code), and 100 women were raped. 19,094 of the perpetrators are or have been married to the victim, and 11,287 are current or former partners. Discussions. We reiterate the need to create an integrated system for collecting data on domestic violence and other forms of violence against women. We present the current situation from a forensic point of view, options available for the victim, and posible solutions. Conclusions. Collecting and publicly presenting incomplete/truncated data can lead public opinion to conclude that violence against women is a marginal phenomenon in Romanian society.*

Keywords. *Domestic violence, violence against women, victim management, contributing factors, sterotypes, social education, forensics*

Introduction: The violence against women sadly represents a highly prevalent phenomenon in all societies, dating back to ancient times, and severely affecting women's health and safety. It inherently

constitutes a breach of democratic principles and rights and is the most frequent and widespread violation of human rights. The World Health Organization estimates that around one-third of women worldwide are victims of acts of violence [1]. Victims generally do not go to doctors or even if they do, they don't benefit from adequate information or their constitutional rights to health, corporeal integrity, and fair justice [2].

The Istanbul Convention, the most comprehensive international treaty that addresses this serious violation of human rights, represents the convention that aims at preventing and fighting against violence towards women and domestic violence, being adopted in 2011 by the European Council [2], an organization that protects human rights and democracy, which brings together 46 states, including our country.

The Convention aims to protect women against all forms of violence by preventing, criminalizing, and eliminating violence against women and domestic violence [3]. The contribution to the elimination of all forms of discrimination against women by promoting gender equality, as well as the emancipation of women, by protecting and supporting all victims of violence against women are some of the proposed directions. In essence, the convention constitutes a new call for equality between women and men within the society of which they belong, knowing that violence against women is deeply rooted in this inequality and is perpetuated by a culture of intolerance and denial. At the same time, it recognizes the phenomenon of violence against women as a violation of human rights and a form of discrimination. It is the first international treaty to contain a definition of gender (the role that society assigns to men and women) and indicates the behavior, activities and attributes considered appropriate for women and men. Several crimes are also marked, such as forced sterilization, female genital mutilation, or psychological violence.

World Health Organization (WHO) supports the prevention of violence in general and domestic violence in particular, by supporting victims who have survived violence, helping to protect women's human rights, and promoting physical and mental health [2].

In recent years, Romania has faced a concerning increase in violence against women, a problem that has become increasingly prominent in our society. Rape, domestic violence, and sexual harassment are just a few of the forms of violence that have disproportionately affected women in our country. This dark reality underscores the need for urgent and coordinated action by state institutions, NGOs, and civil society.

Understanding the complex etiology underlying the emergence of violent behaviors against women in the family/couple setting proves to be a rather challenging process. One of the main contributing factors to the increase in violence against women is the perpetuation of harmful cultural and social norms. Gender stereotypes and preconceived notions about women's roles in society can create an environment conducive to violence and abuse. The culture promoted in the media that minimizes or even justifies violence against women can make them feel unsupported and hesitant to seek help or report abuse.

Another crucial factor is the lack of effective protection and support systems for victims of domestic violence and other forms of gender-based aggression. Despite the efforts made by authorities and non-governmental organizations to provide services and shelters for abused women, resources often remain insufficient or inadequate to meet demand. Additionally, the lack of awareness and training of personnel within state institutions (judicial system, law enforcement agencies, healthcare system) regarding the sensitive treatment of victims can frequently lead to their retraumatization.

Furthermore, underreporting and underestimation of violence against women are major issues in Romania. The interconnection of numerous factors, such as fear of reprisals, social stigma, and unfortunately, lack of trust in the authorities, can discourage victims from reporting abuse. This leads to an underestimation of the actual extent of the problem, directly resulting in underfunding of services for victims. Since 2000, under pressure from international organizations and feminist associations, steps have been taken towards creating a legislative and institutional framework to combat domestic violence, steps continued through our country's accession to the EU and alignment with its norms and values. An important moment was the ratification of the Istanbul Convention in 2016 [3].

The concept of domestic violence is regulated in Romania by Law no. 217 of May 22, 2003 (republished) for the prevention of domestic violence, published in the Official Journal no. 948 of October 15, 2020, as any inaction or intentional action of physical, sexual, psychological, economic, social, spiritual or cybercrime, which occurs in the family or domestic environment, or between spouses or former spouses, as well as between current or former partners, regardless of whether the aggressor lives or has lived with the victim. Romania signed the Istanbul Convention in June 2014 and thus committed to adopt, promote, and respect a series of solid measures to ensure the adequate prevention of the violence phenomenon. The Convention applies to women and minors from any social background, regardless of age, race, religion, social origin, immigrant status or sexual orientation [4].

The World Health Organization considers virginity tests to be a violation of human rights, and in reports and analyses on violence against women, this practice is strongly denounced. In Romania this where mainly conducted at the request of the parents, who later would obtain financial benefits by demonstrating the virginity of the young woman who was about to get married. By introducing „The procedural norms regarding the conduct of expertise, findings, and other forensic work", approved by the joint Order of the Minister of Health and the Minister of Justice no. 1434/687/C/2023, starting from April 2023 forensic medicine no longer issues certificates of virginity status, which are oficially regarded as gender discrimination.

Purpose of the research: The aim of this paper is to highlight the most important problems that contribute to domestic violence especially violence against women in Romania based on our daily forensic practice and pointing out possible solutions.

Materials and methods: The first country report of the GREVIO group regarding the implementation of the provisions of this convention was published in 2022 and represents an extremely useful tool for understanding how the Romanian state has proved ineffective in combating violence against women. Overall, although acknowledging efforts made in several directions, the report highlights many aspects that have either not been addressed at all, have been initiated but are rather at the legislative level or promoted as part of plans and strategies, with implementation being precarious or non-existent. One of the chapters where we are deficient is data collection: "Romania does not have an integrated system for collecting data on domestic violence and other forms of violence against women". [5]

Additionally, the reason why the Gender Equality Index [6] does not calculate the score for the field of violence against women is that there are not enough comparable data for all EU countries, about Romania stating: "Insufficient data to assess violence against women. Romania does not have a score in the violence domain, due to the lack of comparable data at the EU level" (Gender Equality Index 2022). This in itself is an indicator that public policies in the field of gender equality and violence against women are insufficiently developed and implemented: any public policy manual stipulates that the diagnosis stage is essential for developing relevant and consistent strategies. To quote from the GREVIO report [5]: "Another area of concern is the absence of an integrated data collection system on domestic violence and other forms of violence against women. The limitations imposed by administrative data collection in Romania do not allow for a comprehensive perspective on gender-based violence against women and domestic violence, hindering the fair assessment of public policies and current legislation. Therefore, the report emphasizes the need to improve data collection and implement an integrated data collection system (police, judicial authorities, health system) based on harmonized categories, which allows tracking the evolution of cases throughout the entire procedural process, covering all forms of violence against women as defined by the Istanbul Convention and disaggregated by sex, age, type of offense, and type of relationship between the perpetrator and the victim."

How can priorities and objectives be set, how can actions be identified and indicators and deadlines be established if the true dimensions of the phenomenon are not even known?

Results: In the European Union, in 2021, Eurostat recorded 720 cases of femicide reported by an intimate partner, family member or relative, from 17 of the member states (the others did not transmit data) [6].

In the first 6 months of 2022, data on domestic violence recorded by the Romanian Police show that 18,507 women were victims of acts of violence, including: 18 cases of homicide, 13 attempted homicides, and 12,801 cases of bodily harm. In the Romanian Constitution it is written that "The right to life, as well as the right to physical and mental integrity of the person are guaranteed" (art. 22, para. 1). Therefore, the Romanian state failed to guarantee the fundamental rights enshrined in its own Constitution.

NSI data for the year 2021 showed that only 2,953 women were victims of acts of violence. Based on data collected by the Romanian Police, in 2021, 33,970 women were victims of acts of violence based on reports. Based on reports of acts of violence, a total of 51,222 victims were identified, of which 42,677 were adults and 8,545 were minors. In the case of adults, the victims are mostly women (33,970), while in the case of minors, both boys and girls are victims (4,163 boys and 4,382 girls). Among adults, 23,498 women suffered assault or other acts of violence, 4,431 were threatened (according to Article 206 of the New Criminal Code), and 100 women were raped. 19,094 of the perpetrators are or have been married to the victim, and 11,287 are current or former partners.

As in many other countries, In Romania, domestic violence is underrepresented or unrecognized by the responsible authorities [7]. The Romanian Police only collect data on domestic violence, data that do not cover all forms of violence against women provided for in the Istanbul Convention and not even those provided for in national legislation. Moreover, the Penal Code (art. 177 and art. 199) maintains the restrictive

definition of "family members," which excludes partner perpetrators of acts of violence who do not live in the same household as the victim.

Continuing, we will refer to the definitions of violence from *Law 217/2003* for the prevention and combating of domestic violence, emphasizing that in the first iterations of this law the term "violence in the family" was kept in the title.

According to Article 4, domestic violence manifests in the following forms:

a) *Verbal violence* - addressing with insulting, brutal language, such as the use of insults, threats, degrading or humiliating words and expressions.

b) *Psychological violence* - imposing one's will or personal control, causing states of tension and psychological suffering in any way and by any means, through verbal threats or in any other manner, blackmail, demonstrative violence towards objects and animals, ostentatious display of weapons, neglect, control of personal life, acts of jealousy, coercion of any kind, unauthorized surveillance, surveillance of the victim's residence, workplace, or other frequented places, making phone calls or other types of communications through remote transmission means, which, through frequency, content, or timing, create fears, as well as other actions with similar effects;

c) *Physical violence* - bodily harm or injury through hitting, shoving, throwing, hair pulling, stabbing, cutting, burning, strangling, biting, in any form and to any degree of intensity, including those masked as accidents, poisoning, intoxication, as well as other actions with similar effects, subjecting to exhausting physical efforts or activities with a high risk to life, health, and bodily integrity, other than those under point e);

d) *Sexual violence* - sexual assault, imposition of degrading acts, harassment, intimidation, manipulation, brutality to force sexual relations, marital rape.

e) *Economic violence, social violence, spiritual violence, cyber violence* - are not subject to the activity of the forensic physician.

It is worth mentioning *Article 2*, which stipulates that "in no form and under no circumstances can custom, culture, religion, tradition, and honor be considered justification for any type of violent acts defined in this law."

The new Penal Code provides in Article 199 that crimes such as murder, qualified murder, assault or other violence, bodily harm, and assaults or injuries causing death committed against a family member are punished more severely, with the maximum limit of these punishments increasing by one quarter.

In cases of intrafamily violence, the police can act following the submission of a written complaint at the headquarters of the police unit in the victim's area of residence (if made by the victim, it is called a complaint, if made by a witness, it is called a denunciation), following a telephone call to the duty officer of the police section/unit in that area, a request to the Single Emergency Call Service 112 (which can be made by anyone aware of such events), by calling 0800.500.333, the national toll-free number for victims of domestic violence, discrimination based on sex, and human trafficking, or by a verbal report made directly to a police officer on patrol. The police can also act ex officio when intervening in another case or even through mass media/social networks.

Reports of such acts of domestic violence can also be made by persons holding leadership positions within a public administration authority or within other public authorities, public institutions, as well as by any person with control duties who, in the exercise of their duties, become aware of the commission of a crime for which criminal action is initiated ex officio. They are obliged to immediately report to the criminal prosecution body and take measures to ensure that the traces of the crime, the corpus delicti, and any other means of evidence do not disappear. (Article 291 Criminal Procedure Code)

The victim should know that they can file a prior complaint with the criminal investigation body or the prosecutor. The right to file such a complaint is personal and belongs entirely to the injured party. The prior criminal complaint can also be filed by a proxy, in which case the power of attorney must be drawn up specifically for this purpose and must remain attached to the complaint throughout the proceedings.

Criminal action in the case of offenses punishable upon the prior complaint of the injured party may target one or more of the following articles:

- assault or other violence (Article 193 of the Penal Code)
- bodily harm (Article 194 of the Penal Code)
- violence in the family (Article 199 of the Penal Code)
- illegal deprivation of liberty (Article 205 of the Penal Code)
- threat (Article 206 of the Penal Code)
- blackmail (Article 207 of the Penal Code)

- harassment (Article 208 of the Penal Code)
- rape in non-aggravating forms (Article 218 paragraph 1 and paragraph 2 of the Penal Code)
- sexual assault in non-aggravating forms (Article 219 paragraph 1 of the Penal Code)
- sexual harassment (Article 223)
- home invasion (Article 224 of the Penal Code)
- theft among family members (Article 231 paragraph 1 of the Penal Code)
- destruction (Article 253 paragraph 1 and paragraph 2 of the Penal Code)
- abusive use of function for sexual purposes (Article 299 of the Penal Code)

For some of the articles mentioned, the victim may decide to withdraw the complaint, a situation that extinguishes the previously initiated criminal action, and the aggressor is no longer punished.

In the case of the offense of assault or other violence or bodily harm committed against a family member, criminal action can be initiated ex officio (i.e., not at the request of the victim), and in this case, the victim's will to stop the punishment of the aggressor cannot be expressed anymore.

For other categories of offenses (for which the law does not require the introduction of a prior criminal complaint), the criminal investigation authorities do not need the victim's explicit expression of will, to hold the perpetrator accountable, regardless of how they became aware of the crime.

Discussions: In Romania, state institutions have conducted extremely few national investigations related to perceptions, attitudes, and experiences of violence: the only detected study was ANES conducted by CCSAS [8]. National Survey Institute (NSI) has started to develop a series of statistics, including "Gender Equality," which has a sub-objective called "Elimination of all forms of violence against women and girls, in public and private spheres, including trafficking, sexual exploitation, and other forms of exploitation." Out of the 9 defined targets, only one concerns violence against women, the rest focusing on domestic violence, but even this measures data on domestic violence against women.

We reiterate the need to create an integrated system for collecting data on domestic violence and other forms of violence against women. Collecting and publicly presenting incomplete/truncated data can lead public opinion to conclude that violence against women is a marginal phenomenon in Romanian society. We have emphasized the lack of data and their role in the development of public policies to show the urgent need for quantitative and qualitative research that can provide the necessary information to understand the extent, as well as the causes and forms of manifestation of violence against women.

Unraveling the etiological complex that causes violent behavior against women in the family/couple is a rather difficult process. One of the main causes that determine the occurrence of domestic violence refers to the social attitudes and stereotypes that legitimize the dominant role of men and the subordinate role of women that have been perpetuated throughout human history. Thus, the mentality regarding male superiority is a main responsible factor in the manifestation of the phenomenon of domestic violence. It should not be forgotten that in Romania, especially in rural areas, the family is seen as a private sphere, under the control of men, based on the patriarchal relationship model, in which the man decides, and the woman listens, conforms, and follows him. Another problem is the perception of marriage dissolution. There is still, inherited through education, the perspective according to which divorce is the recognition of a women's failure, her being considered the primarily responsible for the family unit. In the mental state of fear caused by the partner's aggressions, the victim goes, in the first instance, to her family of origin and to the neighborhood, where, unfortunately, she may encounter a reaction of disapproval towards the intention to destroy his home. Unfortunately, many of the victims, discouraged, give up at this point and no longer hope that their situation can change or that someone can help them. Violent conflicts inside the family, in which the woman is the victim, gradually become known among the entourage and the community in which they live, and the lack of reaction of those around denotes indifference or even tacit approval.

Another cultural aspect that decisively contributes to the occurrence of violent behaviors in couples is represented by the fact that violence is seen as a form of resolving tense/conflict situations. This is visible not only at the family/couple level, but also at the community level and in the way of dealing with other types of conflict situations. Through violence, an attempt is made to impose one's own vision on issues that raise disagreements [9].

Means of mass communication. It cannot be said that the media creates violence, but it contributes to its maintenance and undoubtedly has a role in increasing the level of aggression. It is difficult to quantify the extent to which the mass media is responsible for the intensification of violent behaviors, but the tendency is towards the liberalization of media activities, without being doubled by an effective control or self-control

over the quality and responsibility of the impact of the dissemination of information, reported at the level of public understanding. Violence is a form of aggression that is learned, and the easiest form of learning is imitation, and media has an essential role in this. Even if there were no acts of aggression in the family of origin, violence abounds in society, schools, television programs from news to cartoons and social media.

Socio-economic factors. Poverty is one of the most often incriminated factors responsible for the emergence and proliferation of family violence. The inability to satisfy certain material needs determines the frustration of the individual, frustration that generates, in turn, a negative energy that spills over into family life. However this type of behavior occurs in all environments, so we should not conclude that domestic violence is a characteristic of poor families, without reaching the middle or upper classes from an economic point of view.

*Legal factors***.** The heavy legal procedures applicable in the case of requesting custody of children, the lack of training of specialists from public institutions - social workers, prosecutors, psychologists are other factors that make it difficult to prevent and combat the phenomenon. At the same time, the lack of confidence in the legal system can be an aggravating factor.

Political factors. The lack of political interest in women's issues, in general, and in domestic violence, in particular, family being considered as a private space and by limiting the state's intervention in the couple's life, favors the perpetuation of domestic violence in society [9].

Abusers. They are often described as having low self-esteem, excessive jealousy, aggressive and hostile personalities, low communication skills, low social skills, intense need for power or feelings of helplessness, anxiety or strong fear of abandonment, narcissistic personalities, and selfishness. Most of the time, violent people in couples seem not to be aware or responsible for their actions or have unbalanced personalities, unable to control their anger or temper. However, except for pathological cases, the aggressors are normal people from a psychological point of view, belonging to all social categories, without essential differences in terms of education or social hierarchy [9]. From a legal point of view, the lack of recognition of guilt, suggests that the person still represents a public danger, compared to those who assume responsibility for the committed acts [10].

The interviews conducted by the law authorities with the aggressors, as part of their investigation, highlighted, in almost all cases, a dysfunctional attitude towards the partner and towards the situation, characterized by minimizing responsibility for one's own behavior and transferring responsibility for the state of violence onto the partner or other persons or situations that negatively influenced cohabitation with the partner [9].

Victims. At the same time, the personality characteristics of the victim play an important role in the emergence and proliferation of violent behavior in couples. Social learning theory explains why it is difficult for women to get out of a violent relationship, because just as aggressive behavior is learned, so is the attitude and behavior of helplessness, passive behavior, lack of reaction to violence. Women learn that violence is out of their control, or that it is normal, and thus become depressed and unable to help themselves. They come to regard violence as a given of their destiny, to accept it because of a wrong choice, and to try nothing more than to reduce its intensity, because they cannot imagine any other type of life [9].

The abusive process. Except for some atypical cases, there is a certain pattern of the abusive process. The first violent manifestations can appear quite early, the relationship begins with arguments, which very easily can turn into physical violence, in the absence of valid arguments from the partners. The abusive process can begin with the emergence of tensions, requests for explanations, with the progressive desire of control, with verbal, emotional, physical abuse, with restrictions/limitations imposed on the victim and can reach the point of exceeding the human limits of security and conservation. In the first phase, victims are not aware of or do not give importance to the various types of aggression that are directed towards their own person. This process can produce a personal devaluation of the victim, accompanied by a gradual decrease in self-esteem. The emotional life of the victim deteriorates, a series of dysfunctions appear even in terms of social life, relationships with friends, acquaintances, relatives, colleagues being affected. Often, at the beginning, the victim finds/invents numerous excuses for the partner's violent manifestations (tiredness/stress, alcohol consumption, or just that it simply happened once). The victim does not react appropriately, remains silent or avoids the partner, may be understanding, calm. A mechanism of denial is activated, of refusing to recognize that the problem is real. In this way, the feedback that is transmitted to the partner is that of accepting the abuse, a message sent without the victim realizing that she is actually giving consent to such behaviors. At this stage, abused women still have some control, but not over the partner, but over the situation itself. The repetition of these incidents, however, will generate anger, and then fear, which

will continuously fuel the tension in the couple and cause the victim's progressive loss of control over the situation. The passive acceptance of the partner's aggressive behavior, as well as the stereotypes related to the man's rights in the family, can encourage the aggressor to lose control and become more and more violent. He can also become more possessive, more brutal, he will use humiliation, mockery, and the woman will eventually become unable to restore the balance of the relationship and defend herself. The apparent permissiveness of the victim towards the aggression, defensive reaction, and the tendency to withdraw can be factors that will trigger even more aggressive behavior of the aggressor [9]. Aggressive behaviour is increased among people with a criminal record. Through repeated psychological and behavioural assessment, the risk of relapse in these persons can be reduced. Even though this recurrence sometimes occurs after years, at this time in our country, the risk of relapse is very high [10].

Family abuse has been politically and legislatively addressed in many countries with the purpose of providing increased support to those affected. In some countries, reporting domestic violence is mandatory, which means that anyone not only 'can' but also 'must' file a report, which is enough for criminal proceedings, even against the victim's desire [11].

Conclusions: To address this complex and concerning issue, a comprehensive and coordinated approach to the existing legislative framework is necessary to ensure real protection for the victim and punishment for the aggressor. First and foremost, it is essential to work on changing mentalities and cultural norms that tacitly support and indirectly promote violence against women. Attitude change can come through the introduction of civic education classes in schools, communities, and workplaces, with this subject as the main theme, raising awareness of the true extent of this scourge. Civil society psychoeducation can play a crucial role in changing perceptions and promoting gender equality. Forensic medicine can contribute to increasing the population's trust in the authorities and awareness of domestic violence as a public health problem.

Furthermore, it is imperative to strengthen protection and support systems for victims of domestic violence and other forms of aggression. This involves ensuring easy and timely access to counseling services, safe shelters, providing counseling, psychological support, and legal assistance for affected women, including assistance in obtaining protection orders or filing complaints against aggressors. Improving the training and sensitization of personnel in the judicial system, law enforcement, and medical personnel to identify signs of domestic violence is essential to ensure prompt reporting, victim management, and smooth conduct of legal proceedings.

Not to be overlooked, we consider it necessary to establish intervention and rehabilitation programs for aggressors that address the causes of violent behavior and provide support for its change.

Ultimately, it is crucial for all members of civil society to be involved in combating violence against women through awareness programs, training, and mutual support. By promoting a culture of respect, gender equality, and solidarity, we can build a society where women are treated with dignity and are protected against any form of violence and abuse. This mentality would encourage and support women's participation in decision-making processes at the political, economic, and social levels, promoting changes in social structures and norms that perpetuate violence against women.

In conclusion, violence against women is a serious and complex problem in Romania that requires immediate and coordinated action from authorities, NGOs, and the entire civil society. By addressing the root cause of violence and strengthening protection and support systems for victims, we can hope to create a society where women are treated with respect and dignity, and where violence against them becomes a painful memory of the past.

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MUELLER-MATRIX TOMOGRAPHY AS A METHOD OF DETERMINATION OF THE DEGREE OF BLOOD LOSS IN CASES OF INCISED-STAB WOUNDS IN VICTIMS OF DOMESTIC VIOLENCE

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Summary: *the article considers the possibilities of using the Mueller-matrix tomography method to determine the degree of blood loss due to incised-stab wounds caused during domestic violence. Purpose of the research to develop criteria for assessing the degree of blood loss in cases of incised-stab injuries with massive blood loss caused during domestic violence. Materials and methods. Blood smears from victims of domestic violence with massive blood as a result of incised-stab injuries were examined. Among the victims were women (n=27) aged 18 to 56 years old, with various degrees of blood loss from (500±100) mm³ to (2500±100) mm³. The research was carried out using a laser polarimeter of a standard scheme. Statistical data processing was carried out using MS® Excel® 2010™ and Statistica® 7.0 applications. Results. The obtained results of the study demonstrate a high level of accuracy (Ac - 82-94%) in determining the degree of blood loss in stab wounds due to domestic violence in the range of blood loss ΔV = (0±2000) mm³. Conclusions. The method of Müller-matrix polarization microscopy of human blood samples has a potential use in forensic medical practice, in order to establish accurate criteria for the degree of blood loss and severity of bodily injuries and ensure justice, which will contribute to reducing the number of cases of domestic violence.*

Keywords: *domestic violence, forensic medicine, blood loss, polarimetry*

Introduction: Domestic violence is a serious problem that, after years of existence, continues to remain a shadow, but recently it is gaining more and more attention in the modern world [1-3].

Domestic violence is a broad term covering any form of violence that occurs within the domestic environment between family members or intimate partners [2]. It includes: physical violence in the form of blows, beatings, mutilations, strangulation or any other actions aimed at inflicting physical injuries; emotional violence: psychological pressure, manipulation, threats, use of contempt or psychological trauma; psychological violence: psychological trauma, isolation from the social environment, contempt and other methods of mental influence [4-6]. Each of these forms of domestic violence can have serious consequences for the victims and the family as a whole. It is important to tackle all forms of domestic violence and support victims for their safety and well-being [7].

The causes of family violence are diverse and complex, but stress, alcohol or drug intoxication, lack of adequate ways to resolve conflicts, and the presence of violent relationships in the family are among the most common [2, 4, 6].

According to data from the World Health Organization, every third woman in the world faces physical or sexual violence in a relationship with a partner during her lifetime. Domestic violence results in the death and disability of thousands of women worldwide each year [2]. In addition, it has serious economic and social consequences for the family and society as a whole. Many cases of domestic violence remain unreported or unaccepted in society, due to stigmatization, fear or lack of appropriate response from law enforcement agencies [7].

Although violence can take many forms, but one of the most dangerous is physical violence with a weapon, which can result in serious injury and even death. Most often, in cases of domestic violence with the use of weapons, cutting and stabbing objects are used, which leads to severe traumatization of

the victims with possible massive blood loss. The key issue in such cases for the forensic medical expert is to determine the degree of blood loss [8-9]. After all, the volume of blood loss can serve as an objective indicator of the degree of gravity of physical injuries inflicted on the victim. This is important for assessing the severity of the crime and taking appropriate measures regarding the responsibility of the guilty parties. Providing clear evidence of the extent of blood loss can assist law enforcement in establishing liability and punishing perpetrators of domestic violence. This helps ensure justice and prevent similar cases in the future [10-13].

Therefore, determining the degree of blood loss is not only a forensic medical necessity for determining the degree of gravity of physical injuries, but also an important element in the legal process to ensure justice and safety of society.

Purpose of the research: to develop criteria for assessing the degree of blood loss in cases of incised-stab injuries with massive blood loss caused during domestic violence.

Materials and methods: Blood smears from victims of domestic violence with massive blood because of incised-stab injuries were examined. Among the victims were women (n=27) aged 18 to 56 years old, with various degrees of blood loss from (500±100) mm^3 to (2500±100) mm^3. The research was carried out using a laser polarimeter of a standard scheme (fig. 1). Statistical data processing was carried out using MS® Excel® 2010™ and Statistica® 7.0 applications.

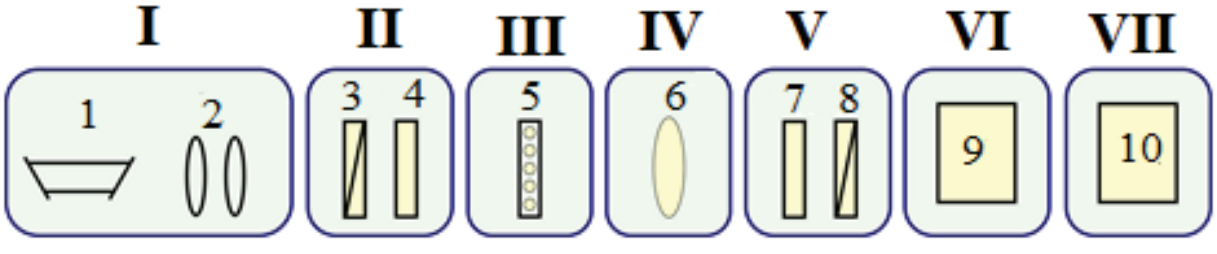

Fig. 1. Functional block diagram of multiparameter differential Mueller-matrix tomography of biological samples:
I – lighting unit (1 – laser; 2 – collimator);
II – polarization filter (3 – polarizer; 4 – quarter-wave phase plate);
III – object unit (5 – biological sample);
IV – projection unit (6 – polarizing microlens);
V – polarization analysis unit (7 – polarizer; 8 – quarter-wave phase plate);
VI – photoelectronic registration unit (9 – digital camera);
VII – data processing unit (10 – personal computer).

Results: The proposed technique is based on the facts that in cases of blood loss there is a decrease in the concentration of formed elements of blood, which in turn is accompanied by corresponding changes in the structure of the coordinate distributions of circular birefringence (CB) of polycrystalline images of the structural elements of its components. For all selected samples, values of circular dichroism of polycrystalline blood films of victims with different degrees of blood loss were determined by Mueller matrix tomography.

The results of the statistical analysis of the specified changes in CB maps of polycrystalline blood films of all samples illustrate the statistical moments of the 1st - 4th orders, which are shown in Table 1.

Table 1. Statistical structure of CB maps of polycrystalline blood films of victims with different degrees of blood loss

Blood loss, mm^3	0	(500±100) mm^3	(1000±100)mm^3
Average (SM_1)	0.193±0.0087	0.162±0.0063	0.131±0.0054
Dispersion (SM_2)	0.181±0.0074	0.16±0.0061	0.14±0.0057
Asymmetry (SM_3)	0.55±0.026	0.79±0.035	1.07±0.047
Excess (SM_4)	0.71±0.034	1.12±0.054	1.55±0.069
p	<0,05	<0,05	<0,05
Blood loss, mm^3	(1500±100) mm^3	(2000±100) mm^3	(2500±100) mm^3

Average (SM_1)	0.102±0.006	0.078±0.004	0.045±0.002
Dispersion (SM_2)	0.12±0.0054	0.103±0.0045	0.082±0.0036
Asymmetry (SM_3)	1.37±0.059	1.68±0.072	1.93±0.095
Excess (SM_4)	1.96±0.098	2.38±0.11	2.72±0.13
p	>0,05	>0,05	>0,05

It was established that the range of changes in the mean (SM_1), dispersion (SM_2), asymmetry (SM_3) and excess (SM_4) according to the level of blood loss is (0±2500) mm³. The linear change of these indicators can be seen in Figure 2

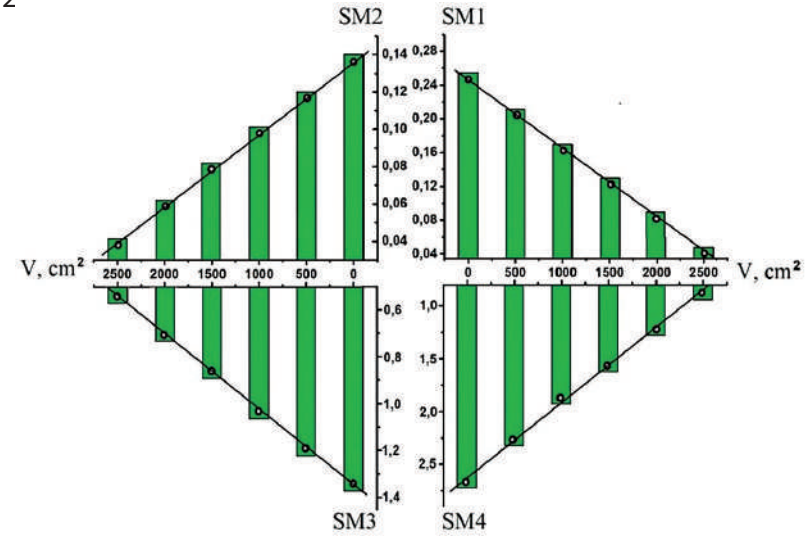

Fig. 2. Dependencies of mean (SM_1), dispersion (SM_2), asymmetry (SM_3) and excess (SM_4), which characterize maps of the CB of polycrystalline blood films of samples with different degrees of blood loss.

For each statistical moment, which characterizes the distributions of the value of the set of CB of blood samples for all victims of domestic violence, the accuracy of determining the volume of blood loss was found (table 2).

Table 2. Accuracy Ac, % of determining the volume of blood loss

Blood loss, mm³	(500±100) mm³	(1000±100) mm³	(1500±100) mm³	(2000±100) mm³	(2500±100) mm³
Average (SM_1)	84	84	84	82	82
Dispersion (SM_2)	92	94	92	90	90
Asymmetry (SM_3)	94	94	92	92	90
Excess (SM_4)	92	92	90	90	88

The analysis of the obtained data revealed that for all the investigated blood samples, the range of sensitivity of the method of differential Mueller-matrix tomography of the circular dichroism of the polycrystalline component to the change in the volume of blood loss for all victims of domestic violence is the maximum level (0±2500) mm³. The accuracy of the method of differential Mueller-matrix tomography of circular dichroism of the polycrystalline component of blood samples varies within: ΔV = (0±2000) mm³ ↔ 82-94 %.

The maximum level is achieved for the following statistical parameters that characterize the circular dichroism maps of blood samples: SM_2 ↔ 90-92 %; SM_3 ↔ 90-94 %; SM_4 ↔ 88-92 %.

Discussion: Incised-stab wounds with massive blood loss can not only cause physical damage, but also leave a psychological and emotional scar for life. In addition, domestic violence has a large impact on society as a whole, increasing costs for health care, law enforcement and social services [3-5].

In order to prevent domestic violence and especially its fatal consequences, it is necessary to pay attention to education and raising awareness in society. Effective prevention programs, legislative measures, and victim support are key components to successfully combating this problem [7].

The results obtained in this work using the Mueller-matrix tomography method to determine the degree of blood loss from incised-stab wounds can have a significant impact on decisions related to domestic

violence, especially in situations where sharp-edged weapons are used [10-12]. Our method allows you to accurately determine the degree of blood loss, which is critically important for a forensic medical expert when investigating cases involving victims of domestic violence. With accurate data on the degree of blood loss, the treatment and procedures needed to stabilize the victim can be effectively prescribed [12].

The results of our research can serve as objective evidence in court proceedings. The exact amount of blood lost, studied with Mueller matrix tomography, can be used to determine the severity of the crime and the responsibility of the guilty people. The obtained results can be used to create preventive programs and legislative measures aimed at preventing violence in the family. Understanding the tools and methods for determining the degree of blood loss can assist in developing effective strategies to protect victims and prevent future incidents.

Therefore, the use of the Mueller-matrix tomography method to determine the degree of blood loss from incised-stab wounds can play an important role in ensuring justice and preventing domestic violence.

Conclusions: The method of differential Mueller-matrix tomography of blood samples provides accurate determination of the volume of blood loss in the range $\Delta V = (0 \pm 2000)$ mm^3.

It is worth emphasizing the importance of research and the use of new methods, such as Muller-matrix tomography, to determine the degree of blood loss in case of incised-stab wounds as a result of domestic violence. On the basis of the obtained results, it is possible to develop more effective strategies for forensic examination and combating violence.

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FORENSIC MEDICAL EXAMINATION OF CAPACITY FOR SEXUAL INTERACTION IN THE CASE OF RAPE: AN EXPERT CASE

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Summary: *This article is devoted to the analysis of forensic medical expert practice regarding the ability to have sexual relations in the case of rape. Introduction: Rape is one of the most serious and widespread violations against a person's sexual freedom and sexual integrity. The study notes the need to pay attention to various aspects of this problematic phenomenon and the importance of forensic examination in solving crimes. Materials and methods: The study is based on the results of the commission's forensic medical examination, medical records, expert opinions and advisory opinions of specialist doctors. In addition, a review of relevant scientific literature and court precedents was conducted. Results: Forensic examination is defined as a key element in establishing the fact of rape and determining the suspect's ability to have sex. The study highlights the importance of a multidisciplinary approach in forensic medicine and its impact on the judicial process. Conclusions: The work is aimed at expanding the understanding of forensic medical examination in cases of rape and promoting the further development of judicial practice.*

Keywords: *rape, forensic medical examination, sexual freedom, sexual integrity of the person*

Introduction: Criminal offences, which are expressed in the form of rape, are one of the most serious and widespread violations against a person's sexual freedom and sexual integrity [1]. According to the Criminal Code of Ukraine, rape (Article 152) is the commission of acts of a sexual nature, associated with vaginal, anal, or oral penetration into the body of another person using the genitals or any other object, without the victim's voluntary consent [2]. Rape is a serious criminal act that not only violates the rights and dignity of victims, but also has a significant impact on their physical and mental health [3].

The study of rapes and their consequences in modern society emphasizes the need to pay attention to various aspects of this problematic phenomenon. Many victims remain hidden due to feelings of shame, lack of faith in justice and fear, especially when it comes to sexual violence in the family [4, 5]. However, in many cases, after such events, the victims still seek legal and medical assistance, and then an important aspect in solving these crimes is the forensic examination [6, 7, 8]. The most difficult task is proving the fact of violence and correctly documenting and collecting evidence [9].

In the case of rape, especially in situations where the suspect claims his inability to have sexual intercourse for medical or psychological reasons, the forensic examination becomes an important element of the investigation and trial [10].

In such cases, a forensic examination to determine the suspect's capacity for sexual intercourse and intercourse is an important aspect of the investigation and trial of such crimes. These aspects are important not only for forensic medicine, but also for forensic psychiatric and legal practice [11].

Purpose of the research: The purpose of this scientific work is to analyze a specific case of sexual violence through the prism of forensic medicine and forensic psychiatric examination, with a focus on assessing the suspect's ability to engage in sexual activity. To achieve this goal, we will conduct a detailed analysis of the expert case, focusing on the methodology, technical aspects, legal context and possible consequences of the forensic examination.

Materials and methods: The material for the study was collected based on the results of the forensic medical examination conducted by the Commission Forensic Medical Examination Department of the Ivano-Frankivsk Regional Bureau of Forensic Medical Examination. Our analysis is based on medical records, expert opinions and advisory opinions of medical specialists. In addition, a review of relevant scientific literature and court precedents was conducted.

Results: From the circumstances of the case, it is known that: "...At the court hearing, the defense attorney of the accused made a request for the appointment of a forensic medical examination... The request is based on the fact that during a confidential conversation with the client, the latter said that he could not have committed the crime of which he is accused, because he has been suffering from erectile dysfunction for a

long time, or impotence, a disorder of sexual function in men, characterized by the inability to achieve and maintain an erection of the penis. ...According to the indictment, citizen M is accused of taking advantage of the helpless state of the minor gr. D. aged 14, who did not understand the meaning of the illegal actions committed against her and was under psychological pressure with intimidation and threats from citizen M. and could not resist him, while he was acting deliberately, that is, aware of socially dangerous and illegal the nature of his actions, their harmful consequences and knowingly wishing for them to occur. Applying physical force and psychological violence, overcoming the will to resistance, citizen M. committed sexual acts with the victim in the house at his place of residence, connected with vaginal penetration into her body using his genitals without the victim's voluntary consent. It also happened several times later."

From the conclusion of the forensic psychiatric expert in the name of citizen M. it is known: "... citizen M. has a previous conviction, he lives in a civil marriage with citizen S. Together they raise six common children, the oldest of them study at a boarding school. According to those around him, he abuses alcoholic beverages and does not raise children. Not officially employed. ..." ...From the interrogation report of the suspect citizen M.: "...I don't remember the exact date; I came home late at night in a drunken state. When I entered the room, I saw that my wife was sleeping. In the same room, my daughter A was lying on the couch. I decided to lie down next to my daughter. Then I had the idea to have sex with her. I started undressing my daughter, namely taking off her pants. I also told my daughter to be quiet. After removing her pants and underwear, I lay on her from behind, undressed, and had intercourse with her in a natural way. During this, the daughter did not resist and behaved calmly. During intercourse, I ejaculated on the sheet. After intercourse, I got dressed and fell asleep. Since then, such episodes have been repeated several more times. One day in the morning, my wife S. told me that she heard the sofa creaking during the night on which I was sleeping with my daughter and that she would call the police because she suspected me of raping my daughter. I, in turn, remained silent and went about my business. Question: when you had sex with your daughter, did your daughter resist? Answer: no, the daughter did not resist during intercourse.". . . data of the clinical examination of the person revealed during the examination: complaints: does not express; mental state: consciousness is clear. Available to a productive language contact. The question is answered correctly, essentially. Language is correct, well-articulated. He submits his anamnestic data in the correct chronological order. Vocabulary is sufficient. Oriented in full volume. Maintains eye contact during conversation. He does not express psychiatric complaints. The mood is adequate to the situation and topic of conversation. Thinking is consistent, logical, at a normal pace. The level of knowledge corresponds to the received education and life experience. There were no signs of personality changes according to alcohol and drug addiction type. There is no sign of addiction. Intellectual-mnestic functions correspond to the received advice and correspond to social status. No disorders were found in the emotional and volitional sphere. Attention is stable. The range of interests is sufficient, mainly motivated by everyday life and physiological needs. No productive psychosymptomatics were found. During the conversation, it is essentially an accusation - he does not maintain eye contact, looks down, to the window, sighs. He explains and justifies his behavior with alcohol intoxication. Critical to this situation. During the inspection he behaved in an orderly manner. Considers himself mentally healthy. neurological condition: pupils D=S. Stable in Romberg's pose. Tendon reflexes D=S. No pathological reflexes or meningeal signs were found.

According to the materials of the criminal proceedings, citizen M. does not suffer from mental disorders and has not suffered in the past, he was not observed by a psychiatrist or narcologist. There is no history of TBI, seizures, sleepwalking, sleeptalking, enuresis. The current examination also does not reveal violations from the mental sphere. The materials of the criminal proceedings and the data obtained during the current examination do not testify to the morbid psychopathological motivation of the behavior of the sub-expert citizen M. during the time period related to the illegal actions incriminated against him. On the other hand, citizen M showed no signs of any mental disorder, he was fully oriented, his actions were purposeful and consistent, and no psychotic symptoms were observed. No mental disorders of organic genesis and clinical signs of a psychogenic nature, which may affect his ability to be aware of his actions and manage them, have been identified. He answered every question. On the basis of the above, the expert comes to the conclusion that the sub-expert citizen M. does not suffer from any mental disorders and has not suffered for the period of time related to the illegal actions incriminated against him. During the period of time related to the crime charged against him, the sub-expert citizen M. was in a state and is currently in a state in which he is able to fully understand his actions and control them. The sub-expert citizen M. does not need the use of coercive measures of a medical nature."

The conclusion of the forensic medical examination expert of citizen A., 14 years old: "...CONCLUSIONS:... Citizen A. did not have any physical injuries at the time of the examination. Citizen A. was found to have a violation of the integrity of the hymen in the form of a radially located tear. The nature of the detected rupture indicates that the age of violation of the integrity of the hymen is more than three weeks before the time of the examination. There are no forensic medical data that would indicate sexual intercourse with citizen A in natural and unnatural ways. Regarding the question, namely: violent or non-violent sexual intercourse, it is a legal one, and therefore it is not within the competence of the expert. In 2 smears and a tampon with the contents of the vagina, in a smear and a tampon with the contents of the oral cavity and in a smear and a tampon with the contents of the rectum of a 14-year-old citizen A, spermatozoa were not detected."

At the meeting of the commission of experts, a citizen M., 45 years old, was examined. Sexologist: Objectively: skin, visible mucous membranes are clean; the abdomen is soft to palpation, not painful; inguinal areas without features. Lymph nodes are not palpable; organs of the portal: testes, appendages on the right and on the left - the sizes are within the normal range, without peculiarities. Male hair growth. Genital organ: the opening of the urethra is in a typical place, no additional formations were found. Recommended for further examination: total testosterone; total PSA+ free PSA; Ultrasound of the pelvic organs + portal organs + doppler of the vessels of the genital organ.

At the next meeting of the commission of experts, the results of additional examination methods were studied.

Advisory opinion of a specialist, an urologist. The patient is a citizen of M, age 45. Complaints: at the time of inspection, there are none. Anamnesis. Denies venereal diseases. Erection: at the time of examination for the last 6 months, the erection is weak or practically absent. Examination. Consciousness is clear. Body temperature - 36.6°C. The skin is clean, pale pink. Hypotrophic. Lymph nodes are not enlarged. The tongue is moist, clean. Breathing is vesicular. Blood pressure - 110/80 mmHg. The tones of the heart are clear, rhythmic. Pulse - 88 bpm, rhythmic, normal. Abdomen of the correct shape, participates in the act of breathing, is not painful. Intestinal peristalsis is normal. The liver is not enlarged. The spleen is not enlarged, not painful. The kidneys are not palpable. Pasternacki is negative on both sides. The bladder is not palpable. When examining the external genitalia: palpable small fibrous formations are noted along the course of the cavernous bodies of the genital organ. Enlarged lymph nodes of the inguinal region were not detected. The testicles are not painful during palpation, the size corresponds to the age norm, the appendages are not fused with the testicles, no additional formations were detected. The lid of the urethra is in a typical place, not swollen, the mucous membrane is not changed.

During Doppler examination of the vessels of the genital organ PSV-8.4 cm/s at rest (normal from 15 cm/s), Fibrous inclusions along the prostatic part of the urethra. Questionnaire data according to the IIEF questionnaire (international index of erectile function) - 15b points (moderate ED).

Ultrasound examination of the male reproductive system. Urinary bladder: V (before urination) 22.62 cm^3 V (after urination) 0 cm^3 . Content: heterogeneous with sediment, moderate. The walls are not thickened. Prostate: cm, V 32.12 cm3. Echo structure: heterogeneous due to: areas of different echogenicity, a tendency to the formation of an additional lobule 2.2x1.13 cm, without prolapse into the lumen, fibrosis is noted along the course of the urethral canal. Echogenicity: increased. PSA blood test. Total prostate specific antigen (PSA) – 0.79 ng/ml (Reference interval < 4.0). Free prostate specific antigen (PSAv) – 0.36 ng/ml. The ratio of free PSA to total PSA is 46% (Reference interval > 15). Final diagnosis: Chronic prostatitis. Vascular disorders of the male genital organs ED (erectile dysfunction) of medium degree of vascular genesis.

On the basis of these case materials, the conclusion of the forensic psychiatric expert in the name of citizen M., the medical chart of an outpatient patient, the results of additional examination methods regarding citizen M, 45 years old, taking into account the questions posed, the commission of experts came to the following conclusions: Taking into account examination of a citizen M. in the dispensary of the regional bureau of forensic medical examination during the commission of a forensic medical examination, the results of additional methods of examination, namely QIIEF (questionnaires of the International Index of Erectile Function), dopplerography of the vessels of the genital organ, prostate examination and laboratory indicators: general and free PSA, general blood test, established final diagnosis: Chronic prostatitis; Vascular disorders of the male genital organs ED (erectile dysfunction) of moderate vascular genesis. These organic changes in the male genital organs do not affect the ability of citizen M. to perform sexual intercourse, which is connected with vaginal penetration of the victim's body with the use of his genitals.

Discussions: The results of the conducted research emphasize the importance of a multidisciplinary approach in forensic medical examination, which takes into account both medical and psychological factors

to accurately establish the ability of the attacker to have sexual intercourse. In this article, an analysis of the forensic medical examination of the ability to have sexual relations in the case of rape was carried out. The results of the study indicate the importance of forensic medical examination in establishing the fact of rape and determining the suspect's ability to be sexually active.

Forensic medical examination is important for proving the fact of the crime of rape. According to the Criminal Code of Ukraine, rape is defined as committing acts of a sexual nature without the voluntary consent of the victim [2]. Establishing the fact of rape belongs to the competence of the court. The study confirms the serious impact of the crime of rape on the physical and mental health of the victims [12].

Forensic medical examination plays a key role in rape investigations and trials. An important aspect of such an examination is the determination of the suspect's ability to perform sexual acts and sexual acts [10].

In cases where a suspect claims to be unable to have sex for medical or psychological reasons, a forensic examination becomes an important element of the investigation and trial. It has not only forensic medical, but also forensic psychiatric significance [11].

Proper documentation and collection of evidence is the most difficult task in rape cases [13]. Forensic medical examination is an important tool in this process, as it provides an objective medical and psychiatric assessment of the condition of victims and suspects.

Conclusions: This article seeks to expand the forensic understanding of sexual competence in rape. Based on the analysis of a specific case, we attempted to highlight the complex aspects of conducting such an examination and its impact on the judicial process. Our work aims to contribute to the further development of forensic medicine and forensic psychiatric practice.

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FORMATION OF A DATABASE WITH DETERMINATION OF THE INFORMATIVENESS OF ITS CONTENT FOR THE DEVELOPMENT OF A PROGRAM FOR MULTIFACTOR PREDICTION OF THE OCCURRENCE OF BRUISING IN VOLUNTEER ATHLETES

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Summary: *Introduction. The development of forensic medicine in the era of modern information technologies requires the search for the most informative and accessible diagnostic methods. Materials and methods. The study was conducted on 22 volunteers (athletes). In them, 43 bruises were described, which were localized on the shoulder, trunk and thighs. Each bruise was photographed at the same time (23 time intervals) and described according to a standard scheme. Their localization, size, type of color and the presence of skin edema in the area of damage were determined. Results. At the first stage of work, all results were compiled into one table (data bank). A total of 795 bruises were described. An exploratory analysis of the data was then carried out, as a result of which all bruises that were less than an hour old were reduced to a whole numerical value (0 hours). The number of observations was reduced to 20. At the third stage, a comprehensive assessment of the correlation of diagnostic criteria for the age of occurrence of the remaining 707 bruises was carried out. It was established that the age of the bruise is reliably correlated with its color, and has a reliable negative correlation with its swelling. There is also a slight dependence on the age, sex of athletes, localization of injuries. At the next stages of the analysis, the hours of examination of bruises were transferred into 20 time intervals and their agglomerative clustering was carried out. Its purpose was to check the validity of these intervals. Which led to a reduction in their number from 20 to 15, within which the studied diagnostic criteria are not mixed. Conclusions. The most informative characteristics of a bruise are its color and the presence or absence of skin swelling. The obtained data are sufficient for the development of an experimental model of multifactor prediction of the age of bruises using neural networks. To increase the accuracy of the diagnosis, it is worth continuing the study to increase the number of observations.*

Keywords: *bruise, duration of bruising, multifactorial prediction.*

Introduction: Forensic medical examination of victims in cases of domestic and gender violence is very complex due to the fact that it covers a large volume of various issues, one of them is, in particular, determining the age of skin damage. The development of forensic medicine in the era of modern information technologies requires the search for the most informative, rational and accessible methods of forensic diagnostics, which should lead to an increase in their effectiveness. In the future, this will allow new expert diagnostic programs to be introduced into forensic medical practice [1]

The purpose of the study: Based on the study of bruises that occur in athletes while playing paintball, to form a database that includes the characteristics of a person and injuries, with the determination of the informativeness of its content for the development of a program for predicting the antiquity of their occurrence based on neural network algorithms.

Materials and methods: The study was conducted on 22 volunteers (athletes) who had been playing paintball for at least a year and knew the rules of the game and safety techniques. Each of the volunteers was familiarized with the rules of conducting the research and a contract was concluded with each of them (informed voluntary consent to conduct research with human participation). Among them were 8 women and 14 men aged 19 to 27. The participants of the study are physically healthy, did not apply medicinal products to the skin and did not use medications during the entire period of the experiment.

The game used a paintball marker that uses working gas (compressed air) to shoot paintballs (diameter 18 mm and weight 3.2 grams) with a flight speed of 150-300 feet per second. For the safety of the participants, a protective mask and suit were used, the textile material of which ensured maximum contact of the projectile with the skin.

During the examination of volunteer athletes, 43 bruises were described in them, which were localized on the shoulder, trunk and hips. Each bruise was photographed together with a color ruler with a metric scale located in the same plane as the damage, according to a technique that was developed earlier [2]. Photographs were taken 30 seconds after occurrence, 5 min., 15 min., 30 min., 1 h., 3 h., 6 h., 9 h., 12 h., 24 h., 48 h., 72 h., 96 h., 120 h., 144 h., 168 h., 192., 216 h., 240 h., 264 h., 288 h., 312 h., 336 h. A total of 23 research terms.

The research used a NikonAF-SNikkor 18-55 mm digital camera, the distance from the camera to the bruise was within 40 cm, the camera was located perpendicular to the bruise, and the lighting lamp was at an angle of 45°, ensuring the illumination of the research object at 1000-2000 Lux.

Bruises were described according to a standard scheme, their localization was determined (second group - shoulder and upper arm; third - trunk; fourth - thigh and buttocks), size (area in cm2), type of color (6 types: First type - red or purple; second type - red and purple, or blue-red; the third type - red and yellow-green or yellow; the fourth type - purple (red-violet, blue-red); the fifth type - magenta (red-violet, blue- red) and yellow-green, or yellow; the sixth type - yellow-green, or yellow) and the presence of skin edema in the area of damage (presence/absence).

A laptop computer ASUS Vivobook 15 X1500EA-BQ3733 was used for data processing.

Results: At the first stage of the work, all the results were summarized in one table - a data bank (Table 1), in which the serial number of the bruise, the serial number of the volunteer, the age of the victim - the number of full years, gender - male (1) or female (2) were indicated. duration of damage in hours, localization (6 types), color type (6 options), presence of skin edema (1), its absence (0). A total of 795 bruises were described. Data on the area of the bruise were not entered due to the fact that they were of similar size.

At the second stage of the study, an exploratory data analysis was carried out, namely, the data in the table were checked and all bruises that were less than an hour old were reduced to a whole numerical value (0 hours), accordingly, 88 rows were deleted. Number of observations reduced from 23 to 20.

At the third stage of the work, a comprehensive assessment of the correlation of diagnostic criteria for the age of occurrence of the remaining 707 bruises was carried out. The correlation coefficient r was determined, with a basic reliability of 99.9%. The obtained results are presented in Table 2.

At the fourth stage of the analysis, specific hours of bruise research were divided into 20 time intervals (classes), followed by their agglomerative clustering. Its purpose was to check the validity of these intervals, namely whether the studied diagnostic criteria do not intersect within these limits.

For ease of evaluation, the results were visualized using the tSNE method (Figure 1). Each cluster has its own color. [3,4,5,6].

As can be seen in Figure 1, the clusters are mixed, that is, a series of time intervals whose diagnostic criteria overlap should be combined.

This led to the need at the next stage to use a typical set of techniques for working with features - "feature engineering" and filtering anomalies (time intervals where the characteristics of bruises intersect). The first method allows you to identify the marginal values of the diagnostic criteria, where the volume of informative data is the smallest, and the second - to filter these values accordingly, which is one of the ways to improve the accuracy of the diagnosis. Data analysis was carried out by quartiles: 5%, 10%, 90% and 95%.

The results of the analysis are given in Table 3.

The analysis shows that less than 10% of the data characterizing the object of the study is the athlete's age is less than 19 years, and if we evaluate the bruises themselves, then 90% of the injuries are in the time range of up to 240 hours. Therefore, it is advisable to apply the following data filter:

data = data[(data[`age`] > 19) & (data[`damage_during`] <= 240)]

Applying this filter allows you to remove 96 injuries that belong to athletes younger than 19 years, or have a post-traumatic period of more than 240 hours, and the remaining bruises (611) are better equipped with data than 707.

As a result of these actions, the number of clusters in the study decreased from 20 to 16.

At the next stage, agglomerative clustering of the newly obtained data was again carried out (16 clusters – 611 bruises). The results were visualized using the tSNE method (Figure 2). Each cluster has its own color.

As can be seen in Figure 2, the brown and green clusters are still mixed, that is, these 2 intervals are not valid. Therefore, let's reduce the number of clusters from 16 to 15 (Figure 3):

As can be seen from Figure 3 for 15 clusters, the separation of data is more clear and, accordingly, there is no intersection of diagnostic criteria.

Discussion: To develop a program for multifactorial prediction of the age of bruises, it is necessary to first create a database with a determination of the informativeness of its content. In our study, the database is formed from 7 diagnostic criteria, 2 of which characterize a person, and 5 - an injury that occurred to him.

It was established that the age of the bruise reliably (p= 0.999) correlates with its color (r= 0.7728), and has a reliable (p= 0.999) negative correlation with its swelling (r= -0.5879), i.e. the older the injury bruising, the less likely it is to have skin swelling. There is also a slight dependence between other factors: age, gender

of athletes, localization of injuries. The size of the damage in our study was not taken into account, since they were of the same type.

After assessing the informativeness of the diagnostic criteria, agglomerative clustering of the investigated time intervals was carried out, which made it possible to identify (invalid) clusters where the data are mixed. And a typical set of techniques for working with "feature engineering" signs and filtering anomalies is to remove these intervals, reducing their number from 20 to 15.

The database formed in this way in the defined 15 time intervals can be used in the future to develop programs for multifactorial prediction of the age of the bruise using neural networks.

Conclusions: 1) The most informative characteristics of a bruise for determining the age of the injury are the color of the bruise and the presence or absence of skin edema.

Due to the fact that all bruises were caused by the same paintballs and had similar sizes, determining the effect of such a characteristic of the bruise as its size requires further research

2) The obtained data are sufficient for the development of an experimental model of multifactorial prediction of the age of bruises, under the condition of reducing the number of time intervals from 20 to 15;

3) It is worth continuing the research to increase the number of observations, which will allow to increase the accuracy of the diagnosis of the age of the injury.

Bibliographic images:

Table 1. Combined table of diagnostic criteria for the age of bruising.

Serial number of the bruise	Volunteer number	Age	Sex	Age of injuries	Localization	Color type	Edema
1	1	20	2	0,003	2	1	0
2	1	20	2	0,05	2	1	0
3	1	20	2	0,15	2	1	0
4	1	20	2	0,3	2	1	1
5	1	20	2	1	2	1	1
6	1	20	2	3	2	1	1
7	1	20	2	6	2	1	0
8	1	20	2	12	2	2	0
9	1	20	2	24	2	4	0
10	1	20	2	48	2	4	0
***	***	***	***	***	***	***	***
795	9,2	20	2	264,000	3	6	0

Table 2. The results of the statistical analysis of the correlation of the diagnostic criteria for the age of bruising

	index	sex	age	damage_during	localization	color	edema
index	1.0000	0.7909	0.2114	0.0389	0.5841	0.0111	0.0711
sex	0.7909	1.0000	0.3573	-0.0981	0.1821	-0.0014	-0.0055
age	0.2114	0.3573	1.0000	0.0971	-0.1723	-0.0279	0.0114
damage_ during	-0.0389	-0.0981	-0.0971	1.0000	0.0257	0.7728	-0.5879
localization	0.5841	0.1821	-0.1723	0.0257	1.0000	-0.0121	0.0864
color	0.0111	-0.0014	-0.0279	0.7728	-0.0121	1.0000	-0.6063
edema	0.0711	-0.0055	0.0114	-0.5879	0.0864	-0.6063	1.0000

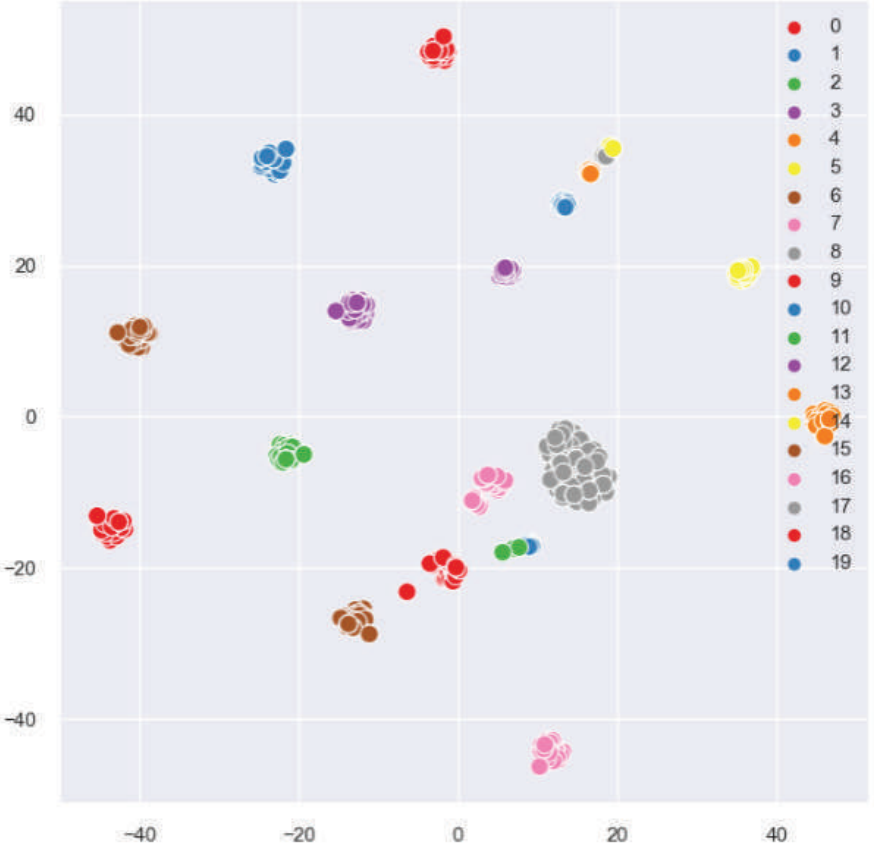

Fig. 1. Visualization of the results of agglomerative clustering (20 clusters) by the tSNE method

Table 3. The results of the processing of "feature engineering" diagnostic features from the database.

	sex	age	damage_during	localization	color	edema
count	707.000000	707.000000	707.000000	707.000000	707.000000	707.000000
mean	0.509194	20.606789	96.782178	3.115983	4.294201	0.288543
std	0.500269	1.430489	97.504242	0.843648	1.813862	0.453406
min	0.000000	19.000000	0.000000	2.000000	1.000000	0.000000
5%	0.000000	19.000000	0.000000	2.000000	1.000000	0.000000
10%	0.000000	20.000000	0.000000	2.000000	1.000000	0.000000
25%	0.000000	20.000000	6.000000	2.000000	4.000000	0.000000
50%	1.000000	20.000000	72.000000	3.000000	5.000000	0.000000
75%	1.000000	21.000000	168.000000	4.000000	6.000000	1.000000
90%	1.000000	21.000000	240.000000	4.000000	6.000000	1.000000
95%	1.000000	25.000000	288.000000	4.000000	6.000000	1.000000
max	1.000000	25.000000	336.000000	4.000000	6.000000	1.000000

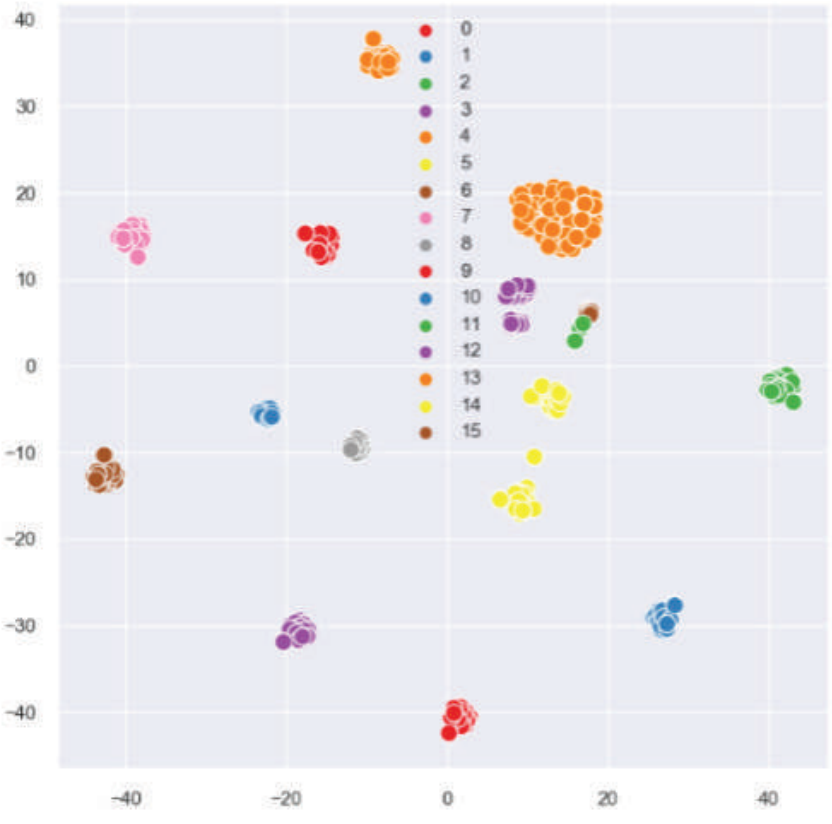

Fig 2. Visualization of the results of agglomerative clustering (16 clusters) by the tSNE method

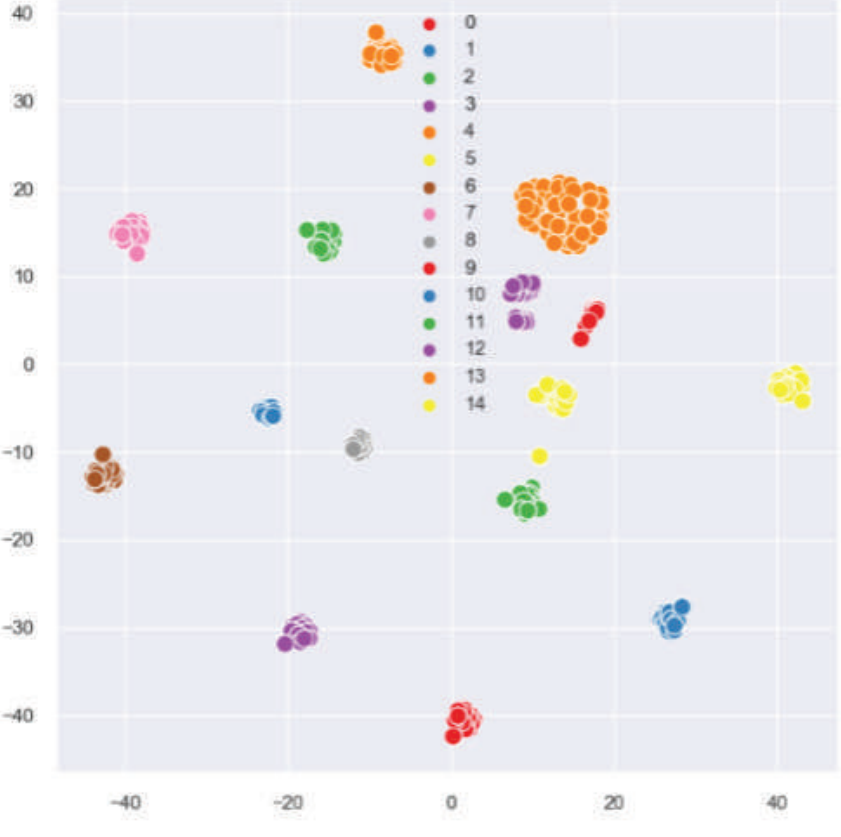

Fig 3. Visualization of the results of agglomerative clustering (15 clusters) by the tSNE method

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ACUTE REACTION TO STRESS – FORENSIC IMPLICATIONS

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Summary: *The choice of theme lies in the importance of stress in people's daily lives, representing a response of the body to the action of physical agents (sound, light, temperature), chemical (radiation, pollution), biological (disease, lack of food, etc.) or psychic (excess or lack of activity, social interactions, mood, etc.). Thus, each individual reacts differently to some stressors. The assessment of the stressful potential of a situation is the objective of the primary assessment, and the evaluation of the adaptive resources available to the subject is subject to secondary evaluation. The relationship between stressor and reaction depends on primary and secondary assessment. Modern studies reveal that the psychosomatic health of the human person is more closely dependent on the mechanisms of control or adaptation to stress than on the intensity and forms of stress to which he is subjected. Adaptation to stress causes mechanisms, some mechanisms are intuitive, and others are learned in a psychological intervention. Acute stress refers to an immediate response of the human body to an event, which is perceived as an urgent challenge that requires activation of coping mechanisms. As a process, the instinct of survival and adaptation to the environment is activated, thus developing those mechanisms of adaptation and defense. Acute stress can occur in serious situations, accidents, crimes, situations that can endanger life, resulting in the person suffering from emotional and physical disorders (post-traumatic stress disorder or acute stress disorder) with cognitive and physical implications. People with acute stress have a decrease in emotional reactivity, they feel guilty about completing tasks and find it very difficult to experience pleasure even if they perform activities that they previously considered pleasurable. The traumatic event is expressed as persistent, and most of the time the individual will try to avoid everything that we have in trauma tests (whether we are talking about people, places or activities).*

Keywords**:** *stress, adaptation, emotional reactivity, trauma.*

Introduction: *Exploring acute stress response and its forensic implications*

Stress, in its various forms, is an inevitable component of human life, representing the body's adaptive response to environmental factors or events that are perceived as threatening or dangerous. Among its forms, acute stress is an immediate and effective reaction, mobilizing the body's resources to cope with crisis situations. However, despite its often-beneficial nature for survival, the acute stress response can bring with it significant medical and legal implications.

The conceptualization of the acute reaction to stress and the detailed understanding of its physiological mechanisms have evolved in recent decades, providing deeper insight into how the body responds quickly to stressors. This response is orchestrated by the sympathetic nervous system, which, in moments of imminent danger, triggers what's known as the "fight or flight response." It involves the rapid release of stress hormones such as adrenaline and norepinephrine, increased heart rate, blood pressure and accelerated breathing, all of which are designed to prepare the body for immediate action [1].

However, despite its effectiveness in critical situations, the acute reaction to stress can have complex and profound consequences for the body, including here effects on the functioning of the central nervous system and endocrine system. These changes can influence cognitive abilities, memory and psychological well-being, and their impact can persist in the long term, evolving into posttraumatic stress disorder or other psychological conditions.

In the forensic context, exploring the acute reaction to stress becomes essential for the correct assessment of the individual's behavior and decisions in crisis or risk situations. This has significant implications in areas such as forensic investigation, emergency care and assessing culpability in the event of traumatic events or crimes.

The **purpose** of this paper is explaining the physiological mechanisms of acute stress response, explore its consequences on memory and mental health, and analyze in detail the forensic implications. By addressing this theme, we propose to contribute to the complex understanding of how acute stress affects individuals and highlight the importance of an informed forensic assessment in crisis and conflict situations.

Material and methods: The paper represents a systematized literature review of 7 sources, enriched with results of proper studies.

Results: *Physiological mechanisms of acute stress*

The acute stress response, also known as the "fight or flight response", is a complex manifestation of the body faced with of a stimulus perceived as threatening or dangerous. The physiological mechanisms involved in this reaction are intricate and fascinating, reflecting the adaptive evolution of the human body to the environment.

The sympathetic nervous system is a vital component of the autonomic nervous system, being responsible for activating the body in situations of stress or imminent danger. This system is associated with the "fight or flight" response and activates in times of emergency, releasing stress hormones like adrenaline and norepinephrine from the adrenal glands. These hormones increase the heart rate, dilate pupils, speed up breathing and redistribute blood flow to muscles and vital organs, thereby preparing the body for rapid action. It also suppresses digestive activity to direct resources to priority functions. The sympathetic nervous system and parasympathetic nervous system work together to maintain balance in the body, and proper activation of this system is essential for effective adaptation to stressful situations and for survival.

The cardiovascular response in the acute reaction to stress involves significant changes in the cardiovascular system in response to stressful stimuli. Under the influence of the sympathetic nervous system, the heart begins to beat faster (tachycardia) to ensure effective distribution of blood to the tissues. Blood pressure rises through vasoconstriction and vasodilation, and blood flow is redistributed to muscles and organs which are essential to support physical exertion and enhance cognitive capabilities in stressful situations. The release of cortisol contributes to the increase of glucose concentration, providing the body with additional energy to face challenges. These physiological adaptations are essential for preparing the body for immediate action, but in the case of persistent stress they can have long-term consequences for cardiovascular health.

In the context of the acute reaction to stress, the release of cortisol is a significant aspect of the body's physiological response. Cortisol, also known as the 'stress hormone', is released into the blood following the activation of the hypothalamic-pituitary-adrenal (HPA) system. This release is initiated by corticotropin-releasing hormone (CRH) produced by the hypothalamus, subsequently stimulating the production of adrenocorticotropic hormone (ACTH) by the pituitary gland. Cortisol has multiple functions in adapting the body to stressful situations, including mobilizing energy resources by stimulating gluconeogenesis, suppressing the inflammatory response to limit inflammation, regulating fat metabolism, and influencing cardiovascular function. Although this adaptive response is essential for immediate survival, elevated cortisol levels under chronic stress can have health consequences, affecting an individual's immune system, metabolism, and mental state [2].

In the brain's response to the acute reaction to stress, the amygdala and hippocampus, two essential regions, are actively involved. The amygdala, known for processing emotions and danger signals, reacts

quickly to stress, triggering the "fight or flight" response. At the same time, the hippocampus, responsible for regulating and storing memories, interacts with the amygdala to manage emotional responses. This complex interaction contributes to the formation and consolidation of memories related to stressful experiences. In the context of the acute reaction to stress, these two regions play a central role in the rapid adaptation of the body to situations of pressure and imminent danger. However, chronic stress can negatively affect these processes, contributing to long-term cognitive and emotional impairment [3].

The respiratory system responds by increasing the respiratory rate, facilitating oxygen supply and efficient removal of carbon dioxide. Under the influence of stress hormones such as adrenaline, the bronchi dilate, optimizing gas exchange in the lungs. In parallel, the sympathetic nervous system activates an increase in muscle tone, preparing muscles to cope with "fight or flight" situations. This includes mobilizing energy reserves, breaking down glycogen, and using fatty acids to provide additional energy. Skeletal muscles involved in rapid movements are mobilized, and blood vessels in these muscles can undergo adjustments such as vasoconstriction or vasodilation, depending on blood flow needs. All these changes are essential strategies to adapt to the demands of a stressful and dangerous environment, but it must be emphasized that chronic stress can have negative consequences on these systems, contributing to various health problems [4].

Acute stress and forensic implications

Acute stress, a natural and vital physiological reaction, can become a crucial factor in assessing and understanding human behavior in the forensic context. Exploring the forensic implications of acute stress takes us into a complex and dynamic field, where interactions between stress response and judicial processes, investigations and medical assessments are extremely varied and often underestimated.

The assessment of acute stress in a forensic context is a crucial component in investigations related to behavior and individual decisions in crisis situations. By analyzing the diagnostic criteria of acute stress disorder, forensic experts can gain meaningful insights into the impact of stressful events on an individual's mental health. This detailed assessment involves analyzing specific symptoms, such as reexperiencing trauma, avoiding stimuli associated with the traumatic event, hypervigilance, cognitive and emotional changes, and identifying clinical signs that go beyond normal reactions to stress. In addition, environmental factors and circumstances that may influence the stress response are examined. By integrating medical and legal information, acute stress assessment becomes an essential tool for a deeper understanding of the psychological consequences of stressful events within a legal framework, thus providing solid foundations for judicial decision-making and the development of appropriate intervention strategies [5]. This multidisciplinary approach contributes to ensuring justice and providing appropriate care and support to individuals who have been exposed to traumatic events.

Memory and acute stress are intricately intertwined in the context of confrontation with the law, having significant implications for the reliability of individual testimonies and memories. Acute stress can negatively influence the processes of memory formation and retrieval, which can lead to distortions or fragmentation of memories related to traumatic events. In forensic evaluations, it is essential to understand the mechanisms by which stress can affect memory, including excessive release of stress hormones and activation of the amygdala, the region of the brain associated with the response to danger. These neurobiological changes can lead to increased focus on negative details or the formation of false memories [6]. It is therefore crucial to sensitively address the relationship between stress and memory in a forensic context so as to provide an accurate assessment of individual memories. This becomes essential in depositions and in court, where memories directly influence the course of the legal process. In these assessments, stressful circumstances and factors that may influence memory formation and recovery are carefully examined, thus ensuring a balanced and informed approach to assessing the credibility of testimonies and their relevance in legal proceedings. Through this deep understanding of the interaction between stress and human memory, one can contribute to ensuring a fairer and equitable judicial system.

The link between acute stress and post-traumatic stress disorder (PTSD) is a complex issue in forensic context, with profound consequences for an individual's long-term mental health. The initial reaction to stress, manifested by a series of physiological and psychological adaptations, can evolve into a persistent and debilitating response, characteristic of PTSD. In forensic evaluation, understanding this development is crucial to appreciate the profound impact of traumatic events on the individual and to reveal signs and symptoms that may indicate the presence of PTSD [7].

The effects of acute stress on judgment and immediate behavior become essential in a legal context. In the case of crime or accidents, assessing how acute stress can influence an individual's responsibility and cul-

pability is of crucial importance for the judicial and forensic process. Acute stress can affect decision-making, concentration, and reasoning, which can influence how an individual responds to tense circumstances. In addition, understanding the link between acute stress and the potential development of PTSD can provide crucial information on the need for therapeutic interventions and support for an individual's mental health. Thus, exploring and detailing this complex connection between acute stress and progression to PTSD provides a comprehensive framework for forensic assessments, contributing to a better understanding of the psychological consequences of traumatic events and to the implementation of appropriate intervention and support strategies in the judicial system.

Forensic doctors and mental health experts play a central role in assessing the consequences of this complex phenomenon. These specialized professionals can provide expertise in interpreting the physical and psychological signs of acute stress, contributing to a comprehensive understanding of its impact in specific situations, especially in a forensic context. Physical evaluation may involve analyzing physiological changes, such as increased heart rate, high blood pressure, or other visible external signs of stress. In parallel, mental health assessment can target issues such as behavioral changes, the presence of psychological symptoms and potential mental health disorders, including post-traumatic stress disorder. In a forensic setting, these experts can shed light on how acute stress can influence an individual's ability to cope with tense situations and provide scientifically based interpretations to support judicial decisions. They can also help identify the need for therapeutic interventions and develop appropriate treatment plans. Through this multidisciplinary approach, forensic doctors and mental health experts ensure a detailed and balanced assessment of the impact of acute stress in a forensic context, thereby contributing to justice and improving assistance to individuals affected by such stressful events.

Emotional trauma and forensic consequences

Emotional trauma, especially those associated with acute stress response, can generate significant consequences for the individual, influencing both mental health and how they interact with the forensic system [1].

Posttraumatic stress disorder (PTSD) is a complex and persistent manifestation of the impact of emotional trauma, in which the initial reaction to stress evolves into a state of significant psychological dysfunction. This condition is characterized by reviving traumatic events, manifested by involuntary recurrence of memories, nightmares and flashes of consciousness. At the same time, active avoidance of associated stimuli and feelings of emotional numbness become manifest, along with neurovegetative hyperactivity such as hypervigilance, irritability and difficulty concentrating. In the forensic context, understanding the connection between emotional trauma and PTSD development becomes essential for assessing an individual's mental health. Emotional trauma, whether it's the result of a single event or repeated experiences, can create lasting changes in how the brain perceives and processes stimuli associated with the threat. These changes can contribute to the development and maintenance of PTSD symptoms, and forensic expertise can help identify and interpret specific signs of this disorder in a legal context. In this regard, careful assessment of the history of emotional trauma and symptoms associated with PTSD becomes crucial to understanding the complexity of mental health within a legal framework and to ensuring appropriate treatment and support to the affected individual.

The impact of emotional trauma on cognitive processes is obvious and has significant consequences, especially in forensic investigations. Trauma can affect essential cognitive functions, such as memory and attention, having a direct impact on how the individual manages and remembers information. Memory can be impaired by the appearance of traumatic flashes or by distorting memories associated with stressful events. Attention span can change, leading to difficulty concentrating and focusing on important details. In a forensic context, careful evaluation of these cognitive changes is crucial, as they can have implications for the reliability of an individual's testimony and his ability to efficiently participate in the legal process.

Emotional trauma can serve as triggers for a variety of mental health disorders, including anxiety, depression, and personality disorders. In a forensic context, understanding the depth of the relationship between trauma and these mental conditions becomes essential for assessing an individual's mental health in court. Emotional trauma can contribute to the emergence and exacerbation of these disorders by affecting the neurobiological balance, stress-regulating system, and structural changes in the brain, especially in regions associated with emotions and traumatic memory.

Trauma coping behaviors are also crucial aspects in forensic evaluation. Individuals who have experienced trauma may develop coping mechanisms to handle persistent stress. These mechanisms may include

avoiding certain stimuli or developing self-defense behaviors that can influence their behavior and decisions significantly. In the judicial courts, it is imperative to understand these coping behaviors in order to properly assess the impact of trauma on the individual and consider its context in the legal process [8].

Forensic experts and mental health professionals have a crucial role to play in managing emotional trauma within judicial systems. Their interventions may include detailed psychological assessments, specialized counseling, and recommendations for appropriate treatment. A holistic approach, integrating medical and legal expertise, can ensure a complete understanding of the impact of emotional trauma on the individual and help develop personalized strategies for intervention and support in court. These forensic interventions can have a significant impact on an individual's resilience and facilitate the process of recovery and adaptation to trauma [9].

By thoroughly investigating the link between emotional trauma and forensic consequences, we can develop more informed and effective strategies for treating and evaluating individuals who have been exposed to traumatic stress.

Forensic interventions and prevention

Forensic interventions and prevention are key aspects for managing emotional trauma and acute stress. For a detailed analysis of forensic strategies, we need to highlight the importance of comprehensive approaches to improve mental health and minimize adverse legal consequences.

Education and counselling are significant interventions in the forensic context for understanding and managing acute stress. Educational programs provide essential information about how the stress response affects physical and mental health, providing effective management strategies. These programs have the potential to enhance an individual's knowledge, contributing to a deeper understanding of the impact of stress on the body and the cognitive processes. In parallel, counseling is a therapeutic framework where mental health professionals can facilitate open discussions, providing emotional support and practical tools for stress management. This therapeutic approach not only develops coping skills, but also identifies available internal and external resources to deal with tense situations. In a forensic context, promoting education and counselling becomes essential, having a positive impact on the individual's adaptation and ability to manage stress effectively, especially in situations related to trauma or involvement in judicial processes. Preventive approaches, including education and counseling, can not only prevent potential mental health disorders, but also promote resilience and adaptability in the face of acute stress challenges.

Forensic doctors and mental health professionals play an essential role in intervening and managing the consequences of emotional trauma within the forensic context. Through their professional assessments, these experts can provide detailed insight into the impact of trauma, identifying specific signs and symptoms that may influence an individual's mental health. Following these assessments, personalized treatment recommendations and interventions tailored to individual needs can be developed. Their expertise in mental health and forensics is crucial in providing meaningful information for the courts, helping to understand the complexity of traumatic situations and identifying appropriate therapeutic responses. Through their multidisciplinary collaboration, forensic doctors and mental health professionals ensure a comprehensive approach to intervening and managing the consequences of emotional trauma, helping to promote mental health and facilitate the affected individual's recovery process.

Behavioral therapies and psychotherapy are fundamental tools in managing emotional trauma and acute stress, offering effective solutions in the context of forensic intervention. Approaches such as cognitive-behavioral therapy (CBT) focus on identifying and changing negative thoughts and dysfunctional behaviors associated with trauma, promoting cognitive and behavioral adaptation. EMDR (Eye Movement Desensitization and Reprocessing) therapy focuses on bilateral stimulation of the brain to facilitate the processing of trauma-related information and reduce the intensity of negative emotional reactions. Exposure therapy consists of gradual and controlled confrontation with stimuli that trigger trauma, helping to reduce avoidance reactions and to appropriately manage associated emotions. Integrating these therapies into forensic intervention plans can facilitate recovery, reducing persistent symptoms and minimizing the long-term impact on the mental health of the individual affected by emotional trauma. Through these specialized approaches, therapists and forensic professionals help provide personalized solutions, supporting the individual in the process of healing and adapting to the consequences of trauma within the judicial system.

The development and implementation of forensic prevention programs is an essential proactive strategy to minimize the effects of emotional trauma within communities and in the legal context. These programs may involve training mental health professionals, providing them with knowledge and skills for recognizing and managing trauma at individual and community levels. The development of community support reso-

urces, such as crisis centers or helplines, can provide vital support to people in need. Facilitating access to counselling services, including individual or group therapy, can be a crucial component in preventing and managing the effects of emotional trauma. These programs not only contribute to raising awareness and intervention capacity at the local level, but also to building a well-structured and effective forensic support network. Through the preventive approach, these programs can significantly contribute to reducing the incidence of emotional trauma and increasing individual and community resilience to stressors.

Addressing emotional trauma within forensic systems requires close collaboration between professionals in the fields of mental health, forensic medicine and justice. Interdisciplinary efforts are an essential framework for ensuring comprehensive assessment and effective trauma management. Mental health professionals bring their expertise in the assessment and treatment of psychological impairment, facilitating the recovery process of individuals affected by emotional trauma. Forensic doctors bring a medical and legal perspective, providing crucial information for assessing the consequences of trauma in the legal context. Working with justice system professionals contributes to a deeper understanding of the complexity of traumatic situations, ensuring that proposed responses and solutions are fair and appropriate. This interdisciplinary collaboration promotes fairer justice and contributes to improving the mental health of communities, as the convergent efforts of specialists from various fields can provide comprehensive and personalized solutions for those affected by emotional trauma in the forensic system.

In conclusion, forensic interventions and prevention are vital components in addressing emotional trauma and acute stress. Taking a holistic and collaborative view can help improve individuals' resilience and minimize negative impacts on their mental health and legal processes. By developing and implementing these strategies, we can build healthier communities and more informed and equitable judicial systems.

Conclusions: By exploring the acute stress response and its forensic implications, we opened a window into the complexity of interactions between physiological response and legal and medical consequences. This trip looked at the deep physiological mechanisms of acute stress, from activation of the sympathetic nervous system to the release of stress hormones and its impact on the brain and other vital systems.

Next, we investigated the forensic implications of acute stress, with a focus on forensic assessment, memory, and the link to posttraumatic stress disorder (PTSD). We also looked at how emotional trauma can persist and influence behavior, judgment, and long-term mental health. In this complex setting, forensic doctors, mental health professionals and the judiciary system play crucial roles in understanding and effectively managing the consequences of emotional trauma.

The chapter on emotional trauma and forensic consequences highlighted how these traumas can contribute to mental health disorders and affect cognitive and behavioral processes. Forensic interventions and prevention have been presented as essential tools for effectively managing these consequences. Approaches such as education, counseling, behavioral therapies, and interdisciplinary collaboration have been proposed to build a holistic framework and minimize the impact of emotional trauma.

In conclusion, this detailed analysis of acute stress response and forensic implications underlines the importance of an integrated approach to mental health and justice. Promoting education and awareness, developing preventive programs and facilitating access to specialized services can help improve the lives of those affected by acute stress and emotional trauma. Through interdisciplinary collaboration and effective strategies, we can build more resilient societies and a more adaptive and equitable forensic system.

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ABSTRACTS

FORENSIC MEDICAL ASPECTS IN SOME ISSUES OF GENDER AND DOMESTIC VIOLENCE IN UKRAINE

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The priority direction of any country's state policy is to create a system that would ensure equal opportunities for all to access political, economic, social, cultural achievements, as well as guarantee respect for the personality of all members of society. Ukraine's aspiration to reach the level of leading countries in the world requires the implementation of current international agreements of the world community. One of them was the ratification in 2022 of the Istanbul Convention, aimed at preventing violence against women and domestic violence and combating these phenomena. It is also important that Article 36 of the Istanbul Convention enshrines the obligation of state parties to take necessary measures to criminalize rape and other forms of sexual violence. At the same time, the official commentary to it clearly states that forms of violence covered by it do not disappear during armed conflict or occupation, and therefore the requirements of the Convention are applied during armed conflict and complement the norms of international humanitarian and criminal law. We conducted an analysis of cases of sexual violence, including rape, that occurred in the temporarily occupied territory in the Kyiv region in 2022, and identified the role of forensic medical examination during the investigation of these crimes. It was found that the existing forms of documenting physical injuries are inadequate and imperfect. Thanks to the initiative of the Target Group of the international human rights organization "Global Rights Compliance" and "Synergy for Justice" under the leadership of Ms. Ingrid Elliot, the authors of this message were involved in the development of standard operating procedures used in investigating sexual violence crimes in conflict conditions following the "Istanbul Protocol" and the "Istanbul Convention". As a result of this activity, a systematic informational form for documenting physical injuries as a result of sexual violence in conflict conditions was proposed for law enforcement officers of Ukraine. In addition, we conducted a statistical analysis of reports of domestic violence victims from 2018 to 2023 based on archival data from the Regional Bureau of Forensic Medical Examination of Zhytomyr Regional Council. It was established that the highest number of reports was made by women aged 25-44 years; in terms of the severity of physical injuries, light and mild injuries with a short-term health disorder predominated, with physical manifestations of which were abrasions, bruises. During the COVID-19 pandemic, the number of reports remained stable and even slightly increased, and during the Russian military aggression, the number of reports decreased by almost half. In cases of domestic violence, children's neglect was committed by the fathers of the victims.

Keywords: forensic medicine, gender-based violence, domestic violence

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MEDICO-LEGAL STUDY OF SEXUAL ASSAULT AT SML CONSTANTA

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Sexual violence happens in every community and affects people of all genders and ages. Sexual violence is any type of unwanted sexual contact. This includes words and actions of a sexual nature against

a person's will and without their consent. A person may use force, threats, manipulation, or coercion to commit sexual violence.

The impact of sexual violence extends beyond the individual survivor and reaches all of society.

Victims of sexual violence include people of all ages, races, genders, and religions — with and without disabilities.

The World Health Organization estimates that around a third of women in the whole world are victims of acts of violence. In the European Union, in 2020, Eurostat recorded 788 cases of femicide, reported by 17 of the member states.

This research paper will use medico-legal aspects of sexual assaults in order to draw a more complete picture of the data accumulated until now with regard to the risk factors.

We analysed 379 records of sexual assaults, available at SML Constanta during January 2020 – March 2024. Victims of sexual assaults were more frequently young people, but also the great age. In the most of cases, the abuse was the private space of victims, predominantly in rural areas. (53.56%).

Forensic investigation could bring indisputable evidence of signs of sexual intercourse, noting the recent rupture of the hymen in 8.17% of cases, the presence of sperm in 10.02% and lesions of anal mucosa 1.58%.

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A RETROSPECTIVE STUDY ON 23 MALE CHILDREN REFERRED FOR SUSPECTED ANAL SEXUAL ABUSE BETWEEN 2020-2023 IN COUNTY LEGAL MEDICINE SERVICE OF BRASOV, ROMANIA

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Introduction: Child anal sexual abuse poses important clinical and legal implications and accurate interpretation of anogenital examination findings is essential. This study aimed to determine the prevalence of male children referred for suspected anal sexual abuse between 2020-2023 to the County Legal Medicine Service of Brasov, Romania.

Material and Methods: Abnormalities of the anal region were classified into three categories: normal-appearing area, nonspecific findings (abnormalities that could have been caused by anal intercourse but also are observed in pathological conditions) and specific findings (strongly suggestive of sexual abuse).

Results: A total of 23 cases were included, who presented a history of sexual assault to the police (n=21 cases) or who came directly to our center to evaluate evidence of anal sexual intercourse (n=2 cases). The mean age of the children in the study group was 9,00 years (range 1 to 15 years).

Anal injuries were described in 3/23 cases and consisted of anal fissures or tears, along with anal dilatation, laxity, or reduced tone of the anal sphincter, inflammation (redness, hemorrhagic infiltrate). These were considered specific findings for anal sexual abuse. The ages of the victims were 8, 14, and 15 years old. Data about the perpetrator was known in only one case, a known person to the victim. None of the children showed evidence of chronic anal sexual abuse. None of them presented extra anogenital traumatic injuries.

Conclusions: This study assessed the prevalence and the pattern of anal injuries and factors associated with cases of anal sexual abuse in male children. It is important to distinguish between sexual abuse and abnormalities caused by pathological conditions.

Keywords: anal sexual abuse, anal findings, erroneous notification

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A RETROSPECTIVE STUDY OF 221 UNDERAGE WOMEN REFERRED FOR SUSPECTED SEXUAL ABUSE BETWEEN 2020-2023 IN COUNTY LEGAL MEDICINE SERVICE OF BRASOV, ROMANIA

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Introduction: Victims of sexual abuse require not only medical care but also injury documentation and collection of forensic evidence for legal purposes.

This study aimed to determine the prevalence of sexual abuse in minor females and the pattern of anogenital injuries in these victims, referred for suspected sexual abuse between 2020-2023 to the County Legal Medicine Service of Brasov, Romania.

Material and methods: A total of 221 cases were included, who presented a history of sexual assault to the police (n=131 cases) or who came directly to our center to evaluate evidence of sexual intercourse (n=90 cases).

Results: Genital injuries were present in 12,66% of cases, indicating penile-vaginal penetration, fingering of genitals, object penetration, or other types of sexual aggression. Anal injuries were found in 6,33% of cases, of which 14,28% presented evidence of chronic anal sexual abuse. Spermatozoa were detected in swabs from 25% of victims in whom this examination was performed (23,52% of total cases). Extragenital injuries were described in 14,02% of cases. Anamnestic data about perpetrators revealed that 23,07% of cases were domestic violence (the perpetrator being a relative), while 70,37% of perpetrators were adults.

Conclusions: This study assessed the pattern of anogenital injuries and factors associated with cases of sexual abuse. However, it is important to note that some of those exposed to sexual assault do not have visible anogenital injuries, and the absence of injuries does not disapprove the act.

Keywords: sexual abuse, genital injuries, domestic violence

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SWALLOWING MOUTHWASH - A NEW EXCUSE PHENOMENON FOR A POSITIVE BREATH TEST

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Introduction: Driving motor vehicles under the influence of alcohol is one of the serious violations of road traffic rules, as well as one of the frequent causes of traffic accidents. Drivers, whether in traffic accidents or random checks, in which the presence of alcohol (ethanol) in exhaled air is detected through a breath analyzer, often use as an excuse the use of mouthwash or food containing alcohol just before passing the breath test.

Purpose of research: The presented work aimed to verify in an experiment the influence of the use/ingestion of mouthwash containing ethanol by the examined person on the result of the breath test.

Material and methods: LISTERINE® TOTAL CARE® 6 in 1 BENEFITS mouthwash was used for the purposes of the experiment. Twelve healthy persons (9 men and 3 women) with an average age of 44.25 years and an average body mass index of 27.85 participated in the experiment. Breath tests were performed with a Dräger 7510 device from the Dräger company.

Results: After using 20 ml of mouthwash for 30 seconds, there was a decrease in the detected average values of ethanol by 71.3% between the 2nd and 5th minute and by 96.1% by the 10th minute, after using 30 ml of mouthwash for one minute between the 2nd and 5th minutes there was a decrease in the detected

average values of ethanol by 74.2% and by the 10th minute by 97.4%, and in both cases even after the subsequent ingestion of mouthwash there was a decrease in the detected average values between the 2nd and 5th minutes ethanol values by 83.3% and by the 10th minute by 100%. In the time interval of 15 minutes, all breath tests were negative.

Discussion: The results of breath tests can be influenced by several factors, which the advocacy uses to challenge their positive results. Questioning is based on three options: questioning the device, questioning based on the operator and questioning based on the person under investigation. He does not even avoid questioning the so-called conversion factor. Drivers' excuses for using Listerine mouthwash containing alcohol (ethanol) may ultimately affect the outcome of court proceedings if they do not comply with the rules for breathalyser performance. It is generally known that if the positivity of the breath test is caused only by the use of mouthwash containing alcohol, or food or food containing alcohol and not by consuming an alcoholic drink, a repeated test at a time interval of 15 minutes is negative.

Conclusion: Ingestion of mouthwash did not affect the results of breath tests. A necessary condition for the performance of breath tests is compliance with a 15-minute time interval before the performance of the first breath test in justified cases and also between repeated breath tests. In the event that the driver considers the result of the breath test to be false positive, he has the option of requesting a blood sample and its examination by the gas chromatography method.

Keywords: mouthwash, breath test

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MULTIPLE EVENTS OF CHILD ABUSE WITH FATAL OUTCOME

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Introduction: Diagnosing child abuse, its interpretation, and the reconstruction of the cause of the injuries are a major challenge for forensic physicians and often require interdisciplinary cooperation.

Material and Methods: We report the case of the death of a 10-week-old baby who died from an abdominal haemorrhage caused by tears in the mesentery of the transverse colon.

Results: The accused father had stated that he had accidentally sat down on the baby who had been lying on the couch, that he got up immediately and noticed that the child was no longer breathing. The emergency doctor who had been called diagnosed no external injuries on the baby, but a reduced oxygen saturation of 90%. The lungs were aerated, there was no pneumothorax, and the heart rhythm was regular. It was stated that subsequently, the oxygen saturation fell further, bradycardia occurred, and the child had to be artificially respirated and finally resuscitated. On admission at the hospital, the Hb value was 3.3g/dl and the pH-value were not measurable. An intra-abdominal haemorrhage of unknown origin was diagnosed on sonography.

Despite volume replacement and the administration of lyophilized plasma, the lactate value remained consistently high (21mmol/l), pH value remained unmeasurable, and the child died. The post-mortem X ray examination revealed multiple rib fractures that had occurred at three different times. The autopsy established the cause of death as an abdominal haemorrhage of 400ml from two tears in the mesentery of the transverse colon exactly above the spine.

Discussion: The fatal injury could not be explained by the father's statement that he had sat on the infant, because the size and localization were consistent with a very punctual force, e.g. the impact of an object or a fist, and not with blunt force impacting a larger area, as one would have expected if someone had sat on the infant.

The rib fractures of different ages ultimately confirmed that the infant had been abused several times previously.

Conclusion: The police investigation revealed that the older rib fractures had already been diagnosed by a paediatrician, who had sent the mother to a paediatric surgery department for further treatment. The father had prevented the mother from going to the hospital because he feared that the violent act against

the child would be discovered. The father was sentenced to life imprisonment for multiple counts of child abuse resulting in death, while the mother received a suspended sentence. The images from the paediatric radiology department showing that the child had been abused several times were crucial for solving this case as they proved the lacking plausibility of the father's statement.

Keywords: child, abuse, outcome

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INTIMATE PARTNER VIOLENCE IN TRANSGENDER AND NON-CONFORMING GENDER IDENTITY INDIVIDUALS: A REVIEW

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Understanding and accepting diverse gender identities represents a notable societal challenge. Transgender individuals are vulnerable to physical and verbal abuse, discrimination, and hate crimes. This violence can manifest in various forms, including assault, harassment, and microaggressions.

The European Court of Human Rights decided in multiple cases (2017 – 2021) that administrative gender identity recognition should not necessarily involve gender reassignement surgery, leading to an increase of number of persons who wish to legally express a different gender identity than their birth-assigned biological gender.

Transphobia is an irrational fear or dislike of transgender individuals who are at an increased risk of victimization and vulnerability.

We performed a literature review aiming to reveal the prevalence of physical abuse in intimate relationships of the transgender and non-conforming gender identity communities. The main method of research was interviewing individuals and self-reporting violent episodes either lifetime or during the past year, since under-reporting to the authorities is a common phenomenon in domestic violence in general.

Transgender people experience a significantly higher prevalence of intimate partner violence compared to the general population, but apparently with no differences neither among gender assigned at birth nor between binary and non-binary individuals.

Efforts to address violence against transgender and non-conforming gender identities require comprehensive strategies, like legal protection, awareness campaigns, inclusive strategies, and education to challenge harmful stereotypes, aiming to reduce marginalization and create a more accepting society

Keywords: domestic violence, transgender, non-binary

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SEXUAL VIOLENCE RELATED TO THE CONFLICT IN UKRAINE

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Introduction: Conflict-related sexual violence is one of the most difficult and urgent problems related to the actions taken against the civilian population in Ukraine after the russian invasion of our territory. For hundreds of years, sexual violence accompanied all wars. Unfortunately, during the hostilities on the territory of Ukraine, there were also repeated cases of sexual violence by the russian military against the population of Ukraine. It should also be noted that the procedure of recording such cases existing in Ukraine is imperfect and sometimes even traumatic for the victim.

Purpose of the Research: The purpose of this study is to improve the current procedure for recording crimes and improve the condition of victims of conflict-related sexual violence.

Materials and Methods: According to the latest data of the Office of the Prosecutor General of Ukraine, 252 cases of sexual violence related to the conflict were recorded.

However, the actual number of victims is much higher. Territories still remain occupied, people may be afraid or ashamed to ask for help because this fact is very traumatic.

Results: In order to resolve this issue, the Ukrainian government is taking measures aimed at creating conditions that will promote safety, confidentiality, non-discrimination and respect for the affected person. One of the important points during the armed conflict is compliance with the norms of the Istanbul Convention, and one of the important steps on this way was its ratification by Ukraine in 2022. In addition, an interdepartmental working group consisting of representatives of the Office of the General Prosecutor, the National Police of Ukraine and the Security Service of Ukraine, as well as forensic doctors with the participation of the international organizations of Global Rights Compliance and Synergy for justice was created in Ukraine. The mission of this working group is to develop standard operating procedures for the investigation and prosecution of conflict-related sexual violence in order to ensure effective victim-centred criminal proceedings, taking into account their trauma and needs.

Discussion: The main directions for ensuring the most favorable conditions for victims are the organization of access to quality-assured, safe and comprehensive services, namely health care, psychosocial services, safety and protection, legal aid and economic support.

Ukraine is currently on the way of transformation, and the issue of sexual violence is no exception. Therefore, the question of creating a new system of documenting crimes is open and is at the stage of active changes and discussions in order to create the most optimal standards that can be applied in such cases.

Conclusions: Therefore, we would like to note that currently Ukraine is on the way to creating a new, more perfect and less traumatic system of documenting sexual crimes and is doing everything possible to help and alleviate the moral suffering of victims of conflict-related sexual violence.

Keywords: recording crimes, victims, sexual violence

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PERCEPTIONS OF MEDICAL STUDENTS REGARDING DOMESTIC VIOLENCE: A COMPARATIVE STUDY OF FRENCH AND ROMANIAN STUDENTS AT UMPh IULIU HATIEGANU IN CLUJ-NAPOCA

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Introduction: Domestic violence is a problem that affects individuals in different cultures and societies. Efforts have been made to approach the problem globally, with variations in perceptions and attitudes towards domestic violence among different populations. This study aims to explore differences in perceptions of domestic violence between Romanian students and French students at UMPh Iuliu Hatieganu in Cluj-Napoca.

Romania and France have distinct cultural contexts, each with its own set of norms, values and beliefs. In Romanian society, traditional gender roles and patriarchal structures have historically influenced perceptions of domestic violence. Thus, the acceptance of male dominance within the family may contribute to the normalization of certain forms of abuse. In contrast, French society has undergone significant transformations in terms of gender equality and women's rights, shaping the way domestic violence is perceived and treated.

The legal framework concerning domestic violence in Romania and France show variations that may influence perceptions of the issue. While both countries have legislation aimed to combat domestic violence, the implementation and enforcement of these laws may differ. In France, comprehensive laws and support systems for victims of domestic violence have been established. In contrast, Romania has experienced difficulties in implementing of the specific legislation, resulting in gaps in victim protection. Social stigmatization of domestic violence can act as a barrier to victim's help-seeking behavior. In Romanian society, cultural norms can perpetuate shame and silence around domestic abuse, discouraging victims from seeking support or speaking out against perpetrators. France has taken important steps to reduce the stigma associated with domestic violence.

Material and method: We used a 10-question questionnaire in which we tried to assess different aspects of domestic violence; the answers being statistically processed.

Conclusion: Perceptions of domestic violence among Romanian and French students are shaped by a complex interaction between cultural, social and historical factors. While both societies recognize the importance of approaching domestic violence, variations in cultural norms, legal contexts and perceptions of gender roles contribute to differences in how this issue is perceived and treated. By understanding these contrasts, stakeholders can adjust interventions and support systems to better meet the needs of victims.

Keywords: stigma, domestic violence

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"VIRGINITY TEST" IN THE REPUBLIC OF MOLDOVA

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Introduction: The practice of "virginity testing" is a form of gender discrimination against women and girls prohibited by international legal norms. So-called "virginity" is not a medical or scientific term, but a social, cultural, and religious concept. Despite the Republic of Moldova became in 1995 a member of the Council of Europe and ratified the European Convention on Human Rights (ECHR) in 1997, adhered to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1994, virginity testing remains a permissible and frequently encountered practice in our country.

WHO, UN Human Rights and UN Women have issued a statement calling for the elimination of so-called "virginity testing". The jurisprudence of the European Court of Human Rights has illustrated that virginity testing can amount to degrading treatment, which is prohibited under Article 3 of the ECHR and violates the right to private life under Article 8.

Currently, the Republic of Moldova's procedural norms do not prohibit expressly the practice of "virginity testing". Usually, this test is requested as an aim of extrajudicial forensic medical examination under pressure from parents or potential spouses to establish the examined person's virtue, honour, or social value for marriage.

Results: In 2023, the Centre of Forensic Medicine started for the first time collecting statistical data related to "virginity testing" carried out by forensic medical experts from the whole country. According to its annual statistical reports, 49 girls and women were subjected to the virginity testing conducted in 8 regional medico-legal departments out of 24. There were no boys or men subjected to this practice. Thus, the highest values were noticed in Edineţ district (40%), followed by Chişinău (18.4%), Soroca (14.3%), and Orhei (12.2%). Significantly lower values were recorded in Cimişlia (4.1%), Bălţi and Rezina (2% each). This incidence can be explained by dominant social and religious traditions, as well as cultural and ethnic features of certain ethnic groups settled in those regions. Another explanation could be the lack of awareness that this practice constitutes an act of violence against women and a violation of human rights, such as the right to be protected from discrimination based on sex, and the right to freedom and security.

Conclusion: Although the Republic of Moldova ratified several important international standards "virginity testing" is still not prohibited. The authors argue that the "virginity test" is not a scientific and useful practice, and therefore cannot be used as evidence. It is degrading, humiliating, and offensive to girls and women examination which violates their rights and must be excluded.

Keywords: virginity tests, gender, rights, discrimination, degrading treatment

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RAISING THE MEDICAL STAFF'S KNOWLEDGE IN RESPONDING TO GENDER-BASED VIOLENCE IN THE REPUBLIC OF MOLDOVA

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Introduction: Domestic and gender-based violence ranks among the most frequent crimes committed in any society and country in the world, reaching epidemic proportions. Furthermore, this social phenomenon is a public health challenge and medical doctors need specific knowledge and skills to ensure an appropriate response. But, to achieve this goal, they should understand what domestic and gender-based violence means, know the causes and consequences of this phenomenon for victims, their descendants and society, their important role in identifying victims and potential victims, recognition and documenting injuries, reporting and referring the victim to other professionals, specialized services for the subjects of domestic violence and authorities. The extent of domestic and gender-based violence in the Republic of Moldova is regrettably high, certain stereotypes regarding the role of men and women persist within the society, but physicians do not have the appropriate knowledge and practical skills in identifying and managing cases of domestic and gender-based violence. As a result, victims do not seek medical help, or even if they do, cannot receive information and appropriate treatment, being unable to fulfil their constitutional rights to health, bodily integrity, life and fair justice.

Purpose of the research: To show actions aimed at enhancing the awareness and knowledge of medical staff regarding domestic and gender-based violence in the Republic of Moldova.

Discussion: In recent years, the Republic of Moldova has carried out several actions focused on reducing the incidence of domestic violence and violence against women. One of the most important is the adoption of Law No 45/2007 on preventing and combating domestic violence and ratification (14 October 2021) of the Council of Europe Convention on preventing and combating violence against women and domestic violence (2011), known as the Istanbul Convention. It is the first instrument in Europe to set legally binding standards specifically to prevent gender-based violence, protect victims of violence and punish perpetrators. Article 15 urges parties to provide or strengthen appropriate training for the relevant professionals dealing with victims or perpetrators of all acts of violence covered by the scope of the Convention, on the prevention and detection of such violence, equality between women and men, the needs and rights of victims, as well as on how to prevent secondary victimisation. In 2018, the Moldovan Government approved the 2018-2023 National Strategy followed by the 2023-2027 National Programme on preventing and combating violence against women and domestic violence. According to the National Programme's specific objective 1.3, institutions responsible for the training of professionals ensure systemically the development of knowledge and skills to appropriately prevent and respond to violence against women and domestic violence. Based on these regulatory acts, the Ministry of Health, Labour and Social Protection and the *Nicolae Testemițanu* State University of Medicine and Pharmacy have been entrusted to mainstream the topics of violence against women and domestic violence in the curriculum of the initial and continuous training for physicians and medical practitioners. In order to achieve this goal, the training curriculum entitled *Domestic and Gender-based Violence* was approved in 2018 and updated in 2023. The course designed for students is an optional one and comprises 30 academic hours, 10 hours for each – lectures, seminars and self-training. The following topics are discussed during the course: Gender-based and domestic violence; National and international laws regarding gender-based and domestic violence; Gender norms, masculinity and violence; Sexual violence and consensual intercourse, Prevention and combating gender-based and domestic violence; Healthcare system response to gender-based and domestic violence. Interactive methods such as discussions with audio-visual support, didactic films, role-playing games, small and large group exercises are used with the audience to increase the training impact. For the first time, both the national training manual and methodical guidelines for the course were developed and published in three languages (Romanian, English and Russian). By 2024, 759 national and international medical students were trained in addressing domestic and gender-based violence. Moreover, within the project *Strengthening the physicians' ability to a better response to domestic violence* implemented by the Nicolae Testemițanu SUMPh with the support of the Embassy of Finland in Bucharest, in spring 2024 more than 300 medical students and physicians were additionally trained in responding to this phenomenon.

Conclusions: The Republic of Moldova has committed to ensuring the development of knowledge and skills in preventing and appropriately responding to violence against women and domestic violence in all professionals involved in addressing this social phenomenon, including medical staff. *Nicolae Testemițanu* State University of Medicine and Pharmacy developed a course for medical students and doctors aiming at increasing their awareness, professional knowledge and skills in identifying victims of domestic and gender-based violence and addressing such cases.

Keywords: domestic violence, gender-based violence, medical professionals

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RATE AND STRUCTURE OF SEXUAL VIOLENCE IN THE REPUBLIC OF MOLDOVA

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Introduction: Nowadays, sexual violence is a severe violation of human rights and a major social problem faced by all countries all over the world. The Council of Europe Convention on Preventing and combating violence against Women and domestic violence (2011), known as the Istanbul Convention, requires state parties to criminalize sexual violence, rape, and sexual harassment and to set up sexual violence referral centers for victims to provide them integrated services. The Republic of Moldova ratified the Istanbul Convention on 14.11.2021 and, by doing so, committed itself to protecting women against all forms of violence, including by adjusting its legal framework to the Convention provisions and adequately assisting victims and survivors. The health system and medico-legal investigation play a crucial role in the response provided by the state institutions.

Purpose of the research: To present the rate and structure of sexual violence in the Republic of Moldova during 2023.

Materials and Methods: The Centre of Forensic Medicine's annual report for 2023 was analysed and 4 criteria (victims' gender, age, residence, their relationship with perpetrator) related to sexual violence cases were studied.

Results: In 2023, 526 people were subjected to forensic medical examinations concerning cases of sexual violence within the Centre of Forensic Medicine regional units. This number included 426 victims and 100 perpetrators. Mostly, sexual violence occurred in Chișinău city (29.5%), followed by the northern region of the country (Edineț (9.7%) and Soroca (6.1%)). Both adults (53.8%) and minors (46.2%) were victims of sexual violence. Mainly, victims of sexual violence were women, especially minors (95.8%). In most cases (69.4%), the perpetrators were unknown to the victims.

Discussion: After ratifying the Istanbul Convention, the Republic of Moldova undertook real steps to meet its provisions. Thus, several centres for victims of sexual and domestic violence, such as Barnahus Centre (for children), Regional service for sexual violence victims in Ungheni district and Police Family Justice Centre were open in the last years (2022-2023). National legislation asks forensic medical experts to conduct medico-legal examinations of sexual violence victims together with gynaecologists and other relevant medical professionals. Nowadays, the Moldovan Criminal Code criminalises rape (art. 171), non-consensual sexual actions (art. 172), sexual harassment (art. 173), sexual intercourse with a person under the age of 16 (art. 174), sexual actions with a person under the age of 16 (art. 175) and luring a minor for sexual purposes (art. 175^1). Nevertheless, it has recently (09.01.2023) been adjusted to the requirements of the Istanbul Convention by including a new article (132^2) that explains the meaning of non-consensual sexual acts or actions. Moreover, the definition of sexual acts was enlarged to include not only vaginal penetration but anal and oral ones with any body part or object.

Conclusions: Sexual violence continues to be a global challenge, and forensic medical institutions play a key role in the state's response. National legislation requires professionals from different fields to act

in a coordinated way and provide the comprehensive services needed by victims of violence. According to the Centre of Forensic Medicine data, during 2023, mostly adult female victims were subjected to forensic medical examinations. The Republic of Moldova adjusted its national legislation to the Istanbul Convention in recent years and this is still an ongoing process.

Keywords: sexual violence, rape, medico-legal examination

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DOMESTIC VIOLENCE IN THE REPUBLIC OF MOLDOVA FROM MEDICO-LEGAL PERSPECTIVE

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Introduction: Domestic violence is one of the most widespread violations of human rights, having significant consequences on physical, mental, and reproductive health. In recent years, the Republic of Moldova has undertaken several initiatives aimed at reducing the incidence of domestic violence and violence against women, such as ratifying the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (2011), known as the Istanbul Convention. State institutions are expected to adjust their tools to meet the requirements of Article 11 of the Convention.

Additionally, in the sixth report, CEDAW noticed that in terms of gender-based violence, the Republic of Moldova statistical data only cover certain forms of gender-based violence and are not disaggregated by sex, age, ethnicity, geographical location, disability, and the relationship between perpetrator and victim. In its first Baseline Evaluation Report for the Republic of Moldova GREVIO noted the Centre of Forensic Medicine annually collects and reports general statistical data on cases of domestic and sexual violence which are not disaggregated by the relationship between victim and perpetrator.

Methods: The statistical analysis of domestic violence cases registered in the Republic of Moldova was conducted. Annual report 2023 of the Centre of Forensic Medicine was studied, and data were systemized and mathematically processed for each criterion and every district of the Republic of Moldova.

Results: To comply with the requirements, in 2023, the Centre of Forensic Medicine adjusted its statistical form to the Convention's requirements, CEDAW, and GREVIO's Evaluation Report recommendations. During 2023, 3.857 victims of domestic violence were medico-legally examined in the Republic of Moldova, 76.02% of them were women and girls. The correlation between victims' age and gender shows that children of both genders are equally victimized, while among adult victims women constitute 78.41%. Mostly, intimate partners (77.37%) acted as perpetrators, followed by other family members (14.22%) and parents (8.41%). As a residency, 54.88% of victims came from urban areas and 45.12% - from rural areas. Only 2.2% of victims were people with special needs, mainly (75.29%) adults.

Conclusion: The Centre of Forensic Medicine in the Republic of Moldova is the only institution within the healthcare field that collects statistical data on domestic violence disaggregated according to the Istanbul Convention requirements. The adjustment of statistical form allowed the collection of statistical data on domestic violence disaggregated on victims' gender, age, geographical location, disability, and relationship with the perpetrator for the first time. This information will contribute to the creation of a systemic sectoral and interdepartmental response aimed at ensuring the safety, prevention, and comprehensive examination of domestic violence cases based on a gender-based approach.

Keywords: domestic violence, women, gender-based violence

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MEDICO-LEGAL IDENTIFICATION OF ADULT VICTIMS OF PHYSICAL DOMESTIC VIOLENCE

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Introduction: Domestic violence is a public health problem and doctors must have specific knowledge and skills to ensure an adequate response and prevention of this social phenomenon. Health and medico-legal systems are key authorities in providing evidence of domestic violence. One of their important tasks is to identify domestic violence victims, but for this purpose, physicians and forensic doctors must have appropriate knowledge and be provided with instruments, including scientific-based ones.

Purpose of the research: The research project aimed to assess the level of knowledge in the field of domestic violence among current and future physicians from the Republic of Moldova and to improve their ability to identify adult victims of domestic violence based on the victim's social profile and injury pattern.

Material and methods: To achieve this goal, 832 medical students and doctors were surveyed and 801 forensic medical reports regarding domestic violence adult victims were studied.

Results: The study revealed a lack of knowledge among physicians regarding domestic violence and the distinct elements of the health system's response to these cases. Medical respondents are affected by some stereotypes as other society members but to a lesser extent. It was found that an ordinary victim of domestic violence is a woman aged 39.4 years, affected regardless of her residence place, employed, and mostly assaulted by her life partner at home in January, June, and July, on Weekend, between 5-10 p.m., medico-legally examined 2.6 days after the assault. Injuries were especially inflicted by blunt objects, mostly by the perpetrator's body parts, averaging 4.6 in number, multipolar located predominantly on the face, arm, forearm, hand, and thigh, represented by soft tissues insignificant injuries; their severity is influenced by the alcohol consumption, the victim's age and gender.

Discussion: The research showed that doctors strongly need to be trained to strengthen their capacity to adequately respond to cases of domestic violence. Understanding the victims' social profiles and the injury pattern could enhance the ability of doctors, including forensic ones, to identify adult victims of domestic violence and ensure the provision of medical and forensic evidence for justice. The results of this study may be used as evidence-based proposals for enriching existing training programs or designing new ones in order to support healthcare practitioners in the correct management of domestic violence cases.

Conclusions: Training of medical professionals in the field of domestic violence is one of the key strategies for improving the healthcare response to victims. The research results can be used by medical and forensic doctors as evidence-based tools to identify adult victims of domestic violence, but may also be useful to other professionals interested in the social and injury portrait of adult victims of domestic violence.

Keywords: domestic violence, physicians, knowledge and perceptions, injury pattern

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