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AGGRESSION AND VIOLENCE TOWARDS MEDICAL SPECIALISTS IN THE CENTER FOR EMERGENCY MEDICAL CARE IN THE REPUBLIC OF BULGARIA

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Summary

Background. The article aims to determine the most common manifestations of violence on the part of patients and their relatives towards the medical specialists working in the Centers for Emergency Medical Care (CEMC) in the Republic of Bulgaria. For this reason, emergency physicians and patients were surveyed. Scientific developments, reports, and publications by researchers and experts were studied and analyzed.

Material and methods. An interview and direct anonymous survey of 120 respondents working in the CEMC was conducted from 2018 to 2019.

Results. The lack of personal formation, emotional intelligence, cultural and moral upbringing, social experience, and moral and ethical values are the basis of aggressive behavior. The daily psycho-emotional load, accompanied by unfounded acts of violence by the patients and their relatives, leads to physical and mental fatigue, the development of burnout syndrome, as well as stress and dissatisfaction with the profession among the medical specialists of the CEMC.

Conclusions. Emergency medicine requires not only a high level of professional training but also mental and physical endurance to work in conditions of high risk not only to the health and life of the patient but also to their own.

Keywords: center for emergency medical care, medical professionals, violence, challenges, problems

Introduction

The overload of emergency medical personnel as a result of insufficient staffing and prolonged stress lead to burnout, which is a serious problem in the medical community. Analyses show that cases of anxiety and stress disorders are increasing. For years, the social portrait of medical personnel in Bulgaria has also been deteriorating. The media writes mainly about mistakes and omissions and less about the daily work of medics. This leads to a decline in public trust, as well as to manifestations of aggression and violence.

Aggression towards medical specialists working in emergency medical centers is not a new phenomenon, and Bulgaria as a country is not alone in dealing with this problem. Aggression and violence are often observed in emergency departments.

The aim of our work is to describe aggression and violence against healthcare workers and their impact on working conditions and the health of workers.

The shortage of studies on Bulgarian emergency medical professionals indicates the need to conduct a study aimed at determining the scale of aggression and violence and their causes, taking into account the division into organizational units, as well as groups of patients and their relatives. Accurate determination of the scale of the manifestation of aggression and violence and the predisposing factors will allow appropriate innovative preventive actions to be taken, which will contribute to limiting the negative consequences.

Medical professionals providing emergency medical care are faced with a number of challenges that require a timely and adequate response. At all hierarchical levels, options are being sought to overcome the difficulties that emergency workers encounter on a daily basis. A lot of work is being done within the scope of real interaction between all subjects. In connection with this, we set the following goals: to study the opinion of medical specialists from the Center for Emergency Medical Care (CEMC) concerning the causes and manifestations of violence and

the profile of persons prone to aggressive behavior. To achieve the set goals, a study was conducted through interviews and direct anonymous surveys of respondents working at the CEMC.

Emergency medical care in the modern world is perceived as one of the main factors for providing quality medical care to the population. Efforts to save life have been made since the beginning of the human race.

When situations arise in which there are dramatic manifestations of an atypical health condition, the patient's relatives panic and fail to control themselves. At such moments, and based on the personal characteristics of the patient and his/her relatives, various manifestations of deviant behavior are displayed.

The most frequent manifestation of violence against medical professionals from the CEMC is verbal violence by marginalized groups and by persons under the influence of alcohol and opiates.

Aggression is a pattern of behavior that has different manifestations. There are different definitions of aggression, but what they all have in common is the intent to harm. Two main forms are distinguished: heteroaggression and autoaggression. According to the Tenth Revision of the International Classification of Diseases, heteroaggression is defined as "assault", and autoaggression as "self-injury" [1].

Modern science studies the numerous factors that provoke aggressive behavior – physiology, psychology, socio-living conditions, social environment, and others.

Aggressive behavior is displayed during psycho-emotional stress, a health and life-threatening situation, as well as due to hooligan motives and lack of formed moral and ethical education [2].

Violence is increasing in the workplaces of health professionals and has become a significant problem for them. The number of incidents has increased but so has the severity of

the impact. Health professionals suffer from symptoms of post-traumatic stress disorder. Violence in the workplace is exacerbated by the lack of a clear definition of what constitutes aggression and violence. A number of scientific publications describe the scale of the problem from both an academic and an operational perspective. The definitions provided are an initial step towards establishing a baseline against which policies and procedures can be created to address this problem.

The scientific definition of aggression has changed over the years. In social psychology, aggression and aggressive behavior is defined as behavior that is intended to harm another person who is motivated to avoid that harm. This harm can take many forms, such as physical injury, hurt feelings, or damaged social relationships. Although definitions vary slightly, there are very similar definitions used by many prominent aggression researchers. For example, to better distinguish certain subtypes of aggression, Anderson and Bushman specifically define human aggression as "any behavior directed at another individual that is carried out with the direct intent to cause harm" [3,4].

Violence is sometimes considered separate from aggression, especially by criminologists, political scientists, and the general public, but most psychologists consider violence to be a subset of aggression. Specifically, the most common scientific definition of violence is that it is an extreme form of aggression in which severe physical harm, such as serious injury or death, is the goal. All acts of violence are considered cases of aggression, but not all acts of aggression are cases of violence. For example, the behavior of a child who pushes another child away from his/her favorite toy is classified as aggressive but not violent. An extreme act, such as attempted murder, is, however, considered both aggressive and violent. In the past few years, some non-physical forms of aggression have been defined as "violence" when the consequences are severe. For example, some types or patterns of verbal aggression are called "emotional abuse", with the goal of seriously harming the emotional or social well-being of the victim. However, "violence"

is most often studied in the context of extreme physical aggression. Since violence is considered a subset of aggression, most of the classifications of aggression are also applicable to violence [4,5].

Victims of violence are women, children, the elderly, or people with professions related to providing assistance in risky situations – police officers, medical specialists, firefighters. The medical specialists working in the CEMC are the first to respond to life-threatening situations or when there is a risk of them occurring. Emergency medicine requires not only a high level of professional training but also mental and physical endurance to work in conditions of high risk not only to the health and life of the patient but also to their own.

In recent decades, doctors, paramedics, and nurses working in emergency medical care have become the object of physical, verbal, or psychological aggression.

Aim of the work

Violence, aggression, and aggressive behavior against healthcare workers is a problem of global importance and is a phenomenon that has grown rapidly in recent years. They constitute an occupational hazard that affects not only one's dignity but also the health of healthcare professionals. The various manifestations of violence and aggression in the workplace have only been studied since the 1990s. Knowledge about them is still not widespread.

The difficulty in unambiguously defining violence and aggression in the workplace of emergency medical professionals encouraged us to conduct our own research to ascertain the extent of the problem at a statistical level and to more accurately measure its impact on emergency medical professionals.

The article aims to determine the most common manifestations of violence on the part of patients and their relatives towards the medical specialists working in the CEMC in the Republic

of Bulgaria. For this reason, emergency physicians and patients were surveyed. Scientific developments, reports, and publications of researchers and experts have been studied and analyzed.

Material and methods

We set ourselves the following goals:

- to study the opinion of medical specialists from the CEMC about the causes and manifestations of aggression, and
- to study the profile of persons prone to aggressive behavior.

To achieve the set goals, scientific papers, reports and publications of researchers and specialists in the field of emergency medical care were studied and analyzed, and most of them were published during the period from 2022 to 2024. An interview and a direct anonymous survey of respondents working at the CEMC were also conducted.

The opinion of 120 medical specialists working in the CEMC, Republic of Bulgaria, was studied. The study was conducted through an anonymous survey. A questionnaire was developed for the purposes of the study, which included closed and open-ended questions. The study was conducted on paper. The selection of all respondents who voluntarily agreed to participate was random.

The following statistical methods were used:

I. Descriptive statistics

Univariate frequency tables for categorical variables with the calculation of:

- absolute frequency – number of valid responses for each category of the variable;
- relative frequency – percentage of valid responses for each category of the variable out of the total number;

- percentage of valid responses – percentage of valid responses for each category of the variable out of the number of valid responses;
- cumulative percentage – cumulative percentage of all categories of the variable.

II. Two-dimensional frequency tables for categorical variables (Cross-tabulations 2x2 and nxn – depending on the categories of the variables) with calculation of number and percentage of the total number;

III. Statistical methods for dependencies

Testing statistical hypotheses for dependencies between two categorical variables:

- coefficient χ^2 (Pearson's method) – used in 2x2 Cross-tabulation, when the expected frequencies in each cell of the table are > 5;
- Fisher's exact method – used in 2x2 Cross-tabulation, when the expected frequencies in some cells of the table are <5;
- linear coefficient χ^2 – used in nxn Cross-tabulation, when the expected frequencies in each cell of the table are >5;
- coefficient χ^2 (Kruskal-Wallis method) - used in nxn Crosstabulation, when the expected frequencies in some cells of the table are <5.

A statistically significant result is considered a significance level of the null hypothesis $p<0.05$.

The statistical processing of the empirical data was performed using a statistical analysis package – the statistical program SPSS 20, designed for research in the social sciences, and Microsoft Office Excel 2016.

Literature from 2010-2025 was reviewed in the PubMed and Web of Science databases by entering the following words: "violence", "aggression", "healthcare", "stress", "medical professionals", "physicians", "workplace", and "emergency medicine". 85 works on the occurrence of the phenomenon of violence against healthcare workers were qualified for the

study. The results of the analysis show a lack of studies on Bulgarian emergency medical professionals.

Results

When analyzing the survey data, it was found that 91% of the male and 100% of the female medical professionals surveyed had been victims of various forms of aggression.

According to medical specialists, the most frequent manifestations of aggression were verbal aggression (90%), demonstration of aggressive behavior (83%), breaking and throwing objects and personal belongings (52%), and physical aggression (12%).

The most frequent manifestations of verbal aggression were threats of physical violence and death (81%), insulting and humiliating words (83%), threat in the form of a warning of revenge (74%), threat to attack one's family (54%), etc.

According to the respondents, those most prone to aggressive behavior were uninsured persons from marginalized groups (78%), persons under the influence of alcohol (62%) and opiates (42%), and parents of sick children (24%).

The occurrence of a situation in which there is a risk to the health or life of a family member or loved one becomes a source of stress and emotional-mental tension. Those with the inability to cope with an unfamiliar and traumatic situation, people from marginalized groups, or those with a lower intellectual level, mental instability, or lacking moral and ethical principles spontaneously show violence. In practice, violence is an expression of helplessness, weakness, relief from mental tension, and despair. A lack of personal formation, emotional intelligence, cultural and moral upbringing, social experience, and moral and ethical values are the basis of aggressive behavior.

The daily psycho-emotional load, accompanied by unfounded acts of violence by the patients and their relatives, leads to physical and mental fatigue, the development of burnout syndrome, as well stress and dissatisfaction with one's profession among the medical specialists of the CEMC.

Figure 1 presents the data from the survey of the question: Have you encountered aggression at your workplace from patients and/or their relatives?

Aggression at the workplace was experienced by 86.4% of the respondents, and only 13.2% were not subjected to violence. Aggression in its various forms inevitably affects the mental and physical health of medics and their level of motivation to work in this profession.

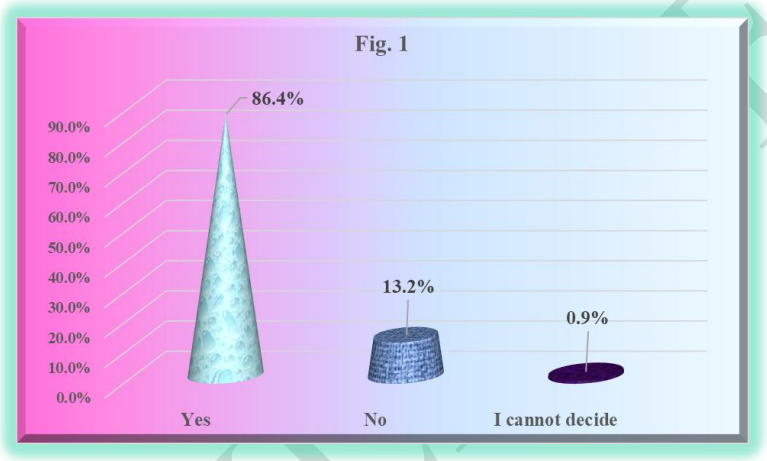

Figure 1. Have you encountered aggression at your workplace?

It is clear from the data that violence in the workplace is a factor that greatly complicates the activity and was assessed as such by the majority of the general population of emergency physicians. Our preliminary expectations were for a less significant manifestation of the difficulty in this factor, but medical practitioners estimate that violence greatly limits and complicates their professional activities.

According to 95.3% of medical specialists, the most common manifestation of aggression is verbal, and for 28.9%, it is physical. Verbal aggression is ignored and perceived only as an emotional outburst. In fact, the invisible emotional wounds, the feeling of fear, and the insult of the gratuitous harassment at work have their later manifestations on the health of medical professionals. Data regarding this factor is visualized in Figure 2.

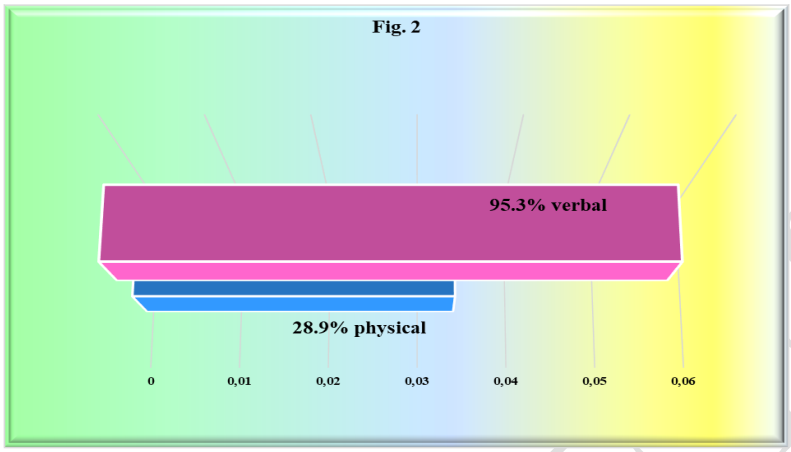

Figure 2. The most common manifestations of aggression

Some of the respondents indicated that they also encounter verbal aggression, both from patients and their relatives, and from the media.

In recent years, acts of violence and harassment towards emergency medical personnel from marginalized communities, people under the influence of alcohol and opiates, and those with deficits in social skills and moral values have significantly increased.

From the data in Figure 3, it can be seen that the ratings of the manifestations of the degree of difficulty on this factor are almost equal.

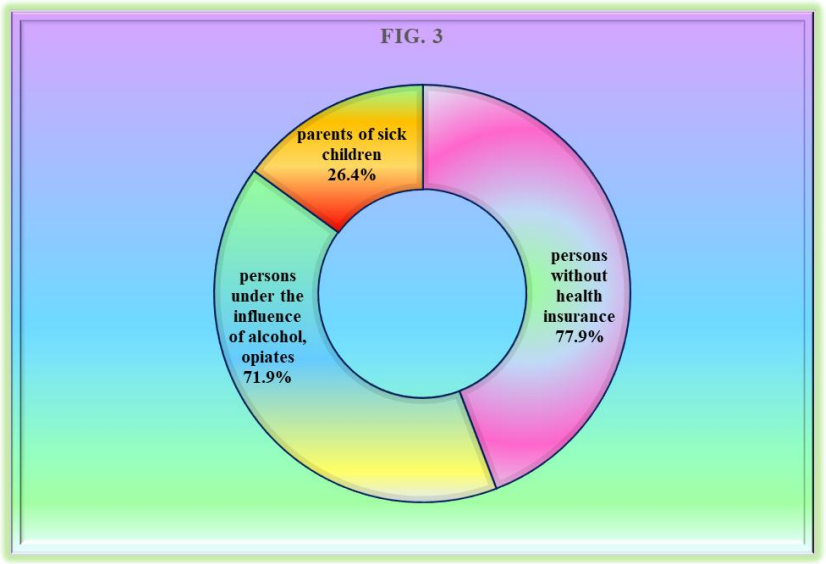

Figure 3. Categories of persons exhibiting aggression

According to 77.9% of the respondents, aggression is shown by persons without health insurance, persons under the influence of alcohol and opiates (71.9%), and parents of sick children (26.4%).

In 90% of the questionnaires, emergency medical professionals unanimously noted that, in addition to the above groups, aggression was exhibited by:

- specific minority groups;
- most patients;
- the media;
- relatives of the patient;
- 60% of the population, regardless of social status.

The application of the Kruskal-Wallis method shows that there is a statistically significant relationship between manifestations of aggression and moral satisfaction with the job ($\chi^2 = 18.386$, $p<0.05$).

There is a statistically significant difference in the average ranks between the groups. The following groups can be ranked from the average ranks – the highest is the average rank of the

group that states that it is subjected to aggressive behavior, followed by the one expressing denial, and the group that cannot assess has the lowest average rank.

There is a statistically significant relationship between manifestations of violence and satisfaction with the amount of pay for the work of emergency physicians (χ^2=11.497, p<0.05).

There is a statistically significant difference in the average ranks between the groups. The following groups can be ranked from the average ranks – the highest is the average rank in the group of those with complete dissatisfaction, followed by low and average satisfaction, and the group with high satisfaction has the lowest average rank.

A generalized opinion of dissatisfaction with manifestations of aggression can be seen within the range from an average of 50.2% to high dissatisfaction in 66.4% of cases.

There are no statistically significant dependencies between the indicators we considered – aggression in the workplace and the decision to re-enter the same profession later, directing the children of emergency medical personnel to their profession, as well as satisfaction with their professional activity in general.

The majority of emergency medical specialists work in conditions of constant compromises, manifestations of aggression, violence, staff shortages, etc.

Discussion

Empirical research on aggression and violence among emergency medical professionals also helps to address the problem. Additional and periodic research is needed to create a comprehensive approach to addressing aggression and violence and the severity of their impact on healthcare workers.

Aggression is a concept in psychology and psychopathology that refers to a register of behaviors aimed at causing harm to others or to oneself. James Dollard defines aggression as "a

response aimed at harming a living organism" [5]. Carl Shaver defines it as "an intentional act aimed at harming another person". The instinctive nature of aggressiveness is supported by Sigmund Freud and Konrad Lorenz. The second substantiates his conceptions from etiological positions, that is, on the basis of animal research. His "hydraulic thesis" characterizes aggression as constantly emerging in the organism and thus inevitable [3,4].

In this sense, two main forms are distinguished: heteroaggression (or alloaggression), when this behavior is directed outside oneself, and autoaggression, when it is directed at oneself [4,5].

Heteroaggression, from a psychological point of view, can be seen as a phenomenon of individual development. At the beginning of their development, people primarily used physical aggression, which is close to archaic patterns in evolution. At the next stage, people learn to deal with verbal aggression, for which purpose they use the "second signal system", and finally cultivate their aggression socially in the form of so-called indirect aggression [3].

In the Republic of Bulgaria, there is data according to which 10 charges were brought against medical personnel for serious assaults for the period 2011-2013, 2 of which ended with an effective sentence; for the period 2014-2016, 11 charges were brought forth, 1 of which ended with an effective sentence. Proceedings for aggression against medical personnel for 2017 amounted to 37 cases, and for 2018, there were 26 cases, 2 of which ended with an effective sentence [6].

According to data from the Ministry of Health in Bulgaria from the first two months of 2019, there were 383 cases of violence against medics. 34 were cases of verbal abuse, and 42 were cases of physical violence. 114 cases of verbal aggression and 8 cases of physical aggression were registered in the CEMC [6,7].

Data from various studies on violence experienced by emergency workers shows that cases of verbal aggression by patients and their relatives significantly predominate over physical

aggression. Verbal aggression is becoming a major source of workplace harassment for emergency center workers. These results are confirmed by studies from different countries, indicating that violence against medical personnel is a problem that needs to be worked on continuously to reduce the stress that emergency care workers are subjected to [8].

The American College of Emergency Physicians, in its 2024 study, found that acts of violence from patients to emergency physicians during work increased compared to the previous 5 years. Their research found that patients committed almost all assaults (98%), with 31% being committed by family or friends of the treated patient [9]. Similar data was reported by the Association of American Medical Colleges [10]. The same study found that in the case of verbal acts of violence, threats of violence, such as hitting, spitting were used. Verbal violence with sexual innuendos, swearing, and threats of physical harm were also reported. Under the influence of alcohol, patients also showed violence towards emergency professionals [11].

Other authors also found that patients who have consumed alcohol are more prone to aggression, followed by patients under the influence of drugs. It was found that 76% of the aggression in the emergency center was not due to an illness, which was also confirmed by our study [12].

Under the influence of alcohol and drugs, patients showed violence in emergency centers to attract the attention of medics. Alcohol and drugs are leading causes of violence against paramedics. Their influence on the mental state unlocks uncontrollable behavior and verbal aggression, which is contrary to generally accepted moral and ethical norms. The abuse is often perpetrated by the parents of child patients [13].

Verbal abuse was demonstrated by parents dissatisfied according to their understanding of medical care for their children [14]. Groups of people who arrive with the patient at the emergency center also demonstrate violence, again to attract attention [15]. Violence against emergency physicians by patients or relatives of patients in the emergency department is

stressful and causes negative emotions [16]. Those working in emergency centers do not want to victimize patients and emphasize that urgent intervention by institutions is needed to prevent violence in their workplace [17]. Emergency physicians accept aggression with resignation and do not feel supported by the institutions [18].

The study found that emergency center workers feel threatened by patient retaliation. Fear of retaliation is even more worrisome than physical injury. These fears lead to work inefficiencies as the threats or assault add stress to medical professionals [19]. Medical staff are regularly confronted with workplace violence, which poses a threat to the safety of both staff and patients. Structured de-escalation training for Emergency Department staff has been shown to positively affect the reporting of workplace violence incidents and possibly reduce its impact [20]. Violence against healthcare workers is notably prevalent in emergency department environments, with a globally increasing prevalence [21,22].

Medical staff are regularly confronted with workplace violence, which poses a threat to the safety of both staff and patients. Structured de-escalation training for emergency department staff has been shown to positively affect the reporting of WPV incidents and possibly reduce its impact. The authors' research aims to describe the development of incidence rates, causes, means, targets, locations, responses, and the time of workplace violence events. Additionally, it explored the effect of the staff trained in de-escalation training on the objective and subjective severity of the respective workplace violence events. Between 2014 and 2023, 160 staff members recorded 859 incidents, noting an average perceived severity of 5.78 (SD=2.65) and SOAS-R score of 11.18 (SD=4.21). Trends showed a non-significant rise in incident rates per 10,000 patients over time. The workplace violence events were most frequently reported by nursing staff, and the cause of the aggression was most often not discernible (n=353, 54.56%). In total, n=273 (31.78%) of the workplace violence events were categorized as severe, and the most frequent target of aggressive behavior was the staff. workplace violence events occurred most

frequently in the traumatology section and the detoxification rooms. While the majority of events could be addressed with verbal interventions, more forceful interventions were performed significantly more often for higher severity workplace violence events. More workplace violence events occurred during off-hours and were of a significantly higher objective and subjective severity. Overall, the presence of staff with completed de-escalation training led to significantly higher SOAS-R scores and higher perceived severity. The findings underline the relevance of workplace violence events in the high-risk environment of an emergency department. The analyzed data suggests that de-escalation training significantly fostered the awareness of workplace violence. While most events can be addressed with verbal interventions, workplace violence remains a concern that needs to be addressed through organizational measures and further research [23].

The authors' analysis found that violence against nurses by patients and visitors in the emergency department was primarily an occurrence of interpersonal violence based on the working relationship, whereby the patient and/or visitor becomes an assailant, and a nurse becomes a target in the absence of capable guardianship. There was also an intentional use of physical force or power, which resulted in or had a high chance of causing harm. A clearer understanding of the antecedents, attributes, and consequences of violence against nurses by patients and visitors arising from this analysis provides a framework that will assist in the understanding, measurement, reporting, and prevention of violence and inform future research [24].

In a recent study, 73% of all nonfatal workplace injuries due to violence affected healthcare workers in the USA. Systematic reviews and meta-analysis revealed that 77% of all emergency department staff reported exposure to workplace violence [23,24].

Affected staff may experience negative effects such as reduced job satisfaction, higher fluctuation of staff, and – as a direct consequence – decreased patient safety and healthcare

quality. The concept of workplace violence in emergency departments is a multifaceted phenomenon and predominantly affects nursing staff [25,26].

Underreporting of workplace violence events is still a widely described phenomenon that derives from cultural, organizational, educational, and behavioral aspects [27,28].

De-escalation Training is designed to act as a primary, secondary, and tertiary prevention program and, therefore, is a widely accepted measure to counteract workplace violence and its negative consequences [29-32].

The numerous studies conducted in different countries prove that violence is a common form of behavior in emergency centers, especially from persons under the influence of alcohol, drugs or mental stress from the deteriorating health of a child or a loved one. All this has a negative impact on the mental state and motivation of emergency physicians.

Conclusions

Aggressive behavior is displayed during psycho-emotional stress and a health and life-threatening situation, but also due to hooligan motives and a lack of formed moral and ethical education. Victims of violence are women, children, the elderly, or people with professions related to providing assistance in risky situations – police officers, medical specialists, firefighters. The medical specialists working in the Center for Emergency Medical Care are the first to respond to life-threatening situations or when there is a risk of them occurring. Emergency medicine requires not only a high level of professional training but also mental and physical endurance to work in conditions of high risk not only to the health and life of the patient but also to their own.

The daily psycho-emotional load, accompanied by unfounded acts of violence by the patients and their relatives, leads to physical and mental fatigue, the development of burnout

syndrome, as well as stress and dissatisfaction with the profession among the medical specialists of the CEMC.

Our results are consistent with other studies that have observed a relationship between aggression and violence and job satisfaction. Emergency medical professionals are exposed to violence from both patients and other medical specialists. Our results provide evidence for future research aimed at improving the work environment and health of emergency department professionals.

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