DECALOGUE OF DISASTER MEDICINE

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Abstract

Through a modern understanding of the present situation, in which disasters happen increasingly frequently, both natural ones and especially those „caused by men", including the danger of terrorist activities, which has increased to concerning levels, and the nuclear risk activities, which have also developed, the leaders of medical schools should reconsider the need for adding the subject of Disaster Medicine to the list of subjects offered to students, as this subject will complete, even enrich the curriculum of the Romanian medical school, which already enjoys a good reputation.

The new study subject, Disaster Medicine, deals with the issues regarding the medical management of crisis situations, thus offering to the young student the opportunity to complete their management development, without which no doctor can be considered fully accomplished, thereby acquiring the basis of a new concept – Disaster Medicine.

Disaster Medicine Decalogue: the author presents a series of laws, rules, desiring to help young students and doctors, which have to form a training in disaster medicine for their future activity. Some examples are:

Protect yourself first.

The first and by far the most important law of disaster medicine seeks to establish the hierarchy of importance of the different persons involved in dealing with a crisis situation.

Other laws regarding crisis management, planning and leadership, include:

A disaster unplanned = two disasters

A doctor with expertise in disaster medicine should act as a leader.

The last one, but the most important is:

Disaster medicine must be a component of the national security system.

Threats to national security pending the factor "health" are not only multiple but very serious.

Medical management of disaster is not, but should be a component of a country's national security, especially in the context of a European country, such as Romania.

The author advocates the need for the existence of a disaster medicine education.

Keywords: education, disaster medicine, law

A modern understanding of the situation beginning of this millennium, in which disasters are more frequent, both natural and especially the "product of man", the worrying increased danger of terrorist activities and activities with the risk of nuclear accident has grown, medical school leaders should reconsider the need to add knowledge of disaster medicine, which will complete even enrich the curriculum of medical school in Romania, which already enjoys a good reputation.

The new field of study, disaster medicine, addressing issues of crisis in medical management, offering young students the opportunity to complete the band of manager, without which no doctor can not be considered fully formed notions about acquiring a new concept - Medicine disaster.

Defining concepts of disaster medicine

Like art, which is related conceptually, medicine has evolved from a medical "need" which has its beginnings, to a overspecialization medicine, which is currently dealing with organ transplants and genome decipherment human cloning reaching the body. But at a time this overspecialization, was conflicted with the social and even economic efficiency of the medical act.

In short, medicine is too expensive, even for economies that are financially afloat. This time, the '50s, reminded the factors responsible medicine, "prevention" with all its branches related to disease prevention on the first place was located the hygiene. This study proved the most the need of it as extremely important specialty in the health community, in times of peace.

Related to hygiene, due to their experience in the hard years of war of the last decade, military medicine has occupied a prominent place in creating health strategies and tactics, his strategies being used in situations of peace.

Due to the new conditions, it has become a new entity, which has been called very pragmatic - disaster medicine. Moreover, in line with the realities of every day, demonstrated the effectiveness of rapid and intensive intervention for medical emergencies, single or multiple intervention resulted in saving many lives and prevent many complications.

This has imposed an equation which brought together three entities:

MILITARY MEDICINE ≈ MEDICINE DISASTER ≈ EMERGENCY MEDICINE

The justification of this equation is that the war is one of the biggest disasters, so between the first entities relationship is about equality. Furthermore, daily emergencies can be interpreted as a form of training for intervention in special circumstances, the collective accidents until large disasters.

To define the area of disaster medicine action must first define the notions of "crisis/emergency", and "disaster"

Considering the question of what is a crisis/emergency? or correct what is a medical emergency? we try to render two definitions, which we determined to be as simple, but if possible, as complete:

A state of crisis, for a given individual, causing disruption to balance his body organs or systems, or in terms of action: "The urgency is an unforeseen combination of circumstances or the resulting actions that require immediate action in response."

Ways of perception of crisis / emergency

Was necessary to determine the vector by which to analyze the state of crisis / emergency or artistic suggested what side of the mirror are we. Thus we discuss about urgency, in terms of a patient who for any little pain can perceive it as a real disaster, but also an emergency from a medical point of view. Besides these two major aspects of the issues raised by the notion of urgency, there are other interdependencies added, some coloration in particular how to address emergency situations which we consider in later chapters.

Study need medical aspects of crisis / emergency / disaster, as a separate specialty

Both in terms of clinical examination, the diagnosis and treatment of emergencies are a special category of suffering or situations to be solved, a particular segment of medicine.

It is readily apparent that the delimitation of all authors are from chronic damage to an organ or system and acute disease. Practitioner must be prepared to face a ***Single Emergency*** as well as ***Multiple Emergencies***.

If in the above subsection we have established the concept of emergency, we must continue to explain other situations dealing with disaster medicine. They are ***collectively accident*** and ***disaster***. Although it might be, in the Romanian legislation is no clear notion of collective accident. Thus the law on emergencies (Title IV of the Law no. 95/2006 on healthcare reform) "The national system of emergency care and first aid qualified" it appears so - **collective accident** - event involving a number of victims (**how many?**), triggering a special plan requiring intervention using additional intervention forces (**if we can not determine how many victims there are, how can we know what forces to alert?**) than those on call at that time. Number of victims requiring special intervention plan onset varies from case to case, taking into account the human and material resources available for intervention in the area where incident occurred.

In other countries legislation that entity is defined as "a large number of accidents due to the same agent acting on a vulnerable time unit. Number of accident victims giving collective category, different laws vary from 3 to 15 victims. In our country collectively define an accident is extremely difficult because of unequal conditions of emergency medical insurance.

What is a traffic accident with 10 victims, occurred in a large city?

Means a time of intense work that brings into action systems ambulance and emergency hospitals. The chances of victims receiving medical care are real and their suffering will be resolved promptly. But what is the same car accident with only three lives on a forest road, mountain of a common remote, a least developed county. Chances victims to receive timely medical care are virtually zero and their suffering will undoubtedly be enhanced, leading to often fatal results. We believe that a proposal could be to discuss the incident in urban community when we have more than 10 victims and in rural areas over five victims to be as pragmatic. So we approached the third entity in charge of disaster medicine and disaster namely, itself.

Periods used in Romanian, disaster and catastrophe, are identical in meaning. The only difference between them is how they arrived in our language. Thus, if the time of the disaster, used in Nordic countries, has been transmitted through the Anglo-Saxon, the disaster has its origin in French-speaking channel. Their use thus also belongs in spirit and only personal preferences of each author.

But what one is a disaster? There are several definitions, more or less accepted, more or less complete. We consider the simplest but most realistic is the following: disaster event which resulted in negative results in a number of victims requiring medical aid amount exceeds its options granting the structures directly responsible.

In conclusion, the three types of working situations of disaster medicine can be defined by three equations, as follows:

1. medical emergency (simple) is governed by equation 1 or more savior / saviors ("S") in relation to a victim ("V"), so **1S≈1V**

2. collective accident could be defined by the equation "nS" in which a number of rescuers are related, "nV" with a number of victims, the "nS" is always larger than the "nV" so: **nS>nV** - with the proposition that n = 10 in rural and urban n = 5

3. disaster ("d") changes the previous equation. If we mean by "nsd" number of rescuers who will enter the first phase of the action and "nvd" casualties resulting factor due to aggressive action, the equation will be characterized by the disaster situation: **nSd<nVd**.

The equation we used the following abbreviations:

– "n" – number of participants in the action defined by equation,

– "S" – the number of rescuers, doctors and / or other health professionals,

– "V" – the victim or victims existing

– "d" – a disaster situation.

Short history

Although Romania had a tradition of disaster medicine, joining the first emergency hospital in the world and one of the first ambulance services in the Europe Community, incorrect understanding of how leaders of Romanian medicine led to the abolition of medical specialty emergency and therefore the commitment to disaster medicine. Exists, so until around the 60, then disbanded and reconstituted in 1991, emergency medicine, with the efforts of large health professionals, col. dr. Alexander Bucur from the Emergency Hospital Floreasca, prof. dr. Ladislau Szegedi from Bihor County Hospital, prof.dr. Sorin Oprescu from University Hospital, prof. dr. Popa Florin from the Hospital of St Pantelimon, prof. dr. Mircea Chioreanu and dr. Raed Arafat from the County Hospital Mureș, dr. Andrei Georgescu and dr. Mircea Oprisan from the Ambulance Service of Bucharest and not least prof. dr. Victor Voicu and prof. dr. Șerban Marinescu from Central Military Hospital, have campaigned for the establishment of emergency medical education system, to be included in disaster medicine.

But in general, in Romania, specialized education has still large gaps. This has led to numerous factors responsible hospital, but medical schools, transfer schools, but also management and emergency services organization by departments of ATI since ATI doctor is usually desirable and necessary first support emergency service. The advantages of this organization were obviously better in the first phase. Bring benefits to the existence of specialty medical emergency and disaster are primarily those related to creating a hospital - outpatient treatment that will ensure faster and more efficient over time, prefiguring a chain that begins with family medicine.

Decalogue of disaster medicine

Disaster Medicine is governed by rules which are reflected more intensely on an accumulating experience.

In its present form a "Ten Commandments of Disaster Medicine", which contains the main precepts of this branch of modern medicine. Try to make the exposure as attractive, even if the expression for loss of academic character of pragmatism, which we consider to be a characteristic "sine qua non" of disaster medicine.

1. Protect yourself first

The first and by far the most important law of disaster medicine seeks to prioritize the importance of various actors on stage that resolves the crisis.

In this regard should first be pointed out that the urgency to resolve issues in disaster, the savior, the healthcare is more important than the victim, the patient. This is because only savior may help the victim, the reverse relationship is impossible. Where savior, by not protecting himself, falls under aggressive factor that has led to the victim / victims equation: **1S ~ nV**, will become: **0S ~ n + 1V**.

In this case the chances of victims to be saved are huge declined. Such protection, which is mandatory for disaster, medical practitioner must take a good theoretical and practical vocational training, a proper assessment of the scene of ongoing events and close cooperation with the entire

team, which contributes to resolving the crisis. Savior must understand that everyone's interest is primarily physical and mental integrity and the exaggerated heroism can do more harm than help.

2. Disaster medicine requires action before reflection

Doctor, in case of disaster, act first and then have time to consider.

We wish to state that in the disaster is very important that medical decisions are taken faster. This action should not impede the quality of care, on the one hand, but delayed nor as accurate as taking an attitude towards the case.

So, doctor specialized in disaster medicine should have a very solid professional training, both practical and theoretical, to put that into practice when needed.

3. The biggest enemy of disaster medical specialist is time

By its very nature, urgency requires rapid resolution. Disaster medical practitioner must show great speed action, but should be based on a thorough workout and a good education specialist. So it can even compensate a lack of experience.

The biggest enemy of the doctor's time, can be defeated by the 3 "P" of disaster medicine, which are:

Preparation – personal first, but the team also, of course with its integration into activities and action plan of the group intervention forces. Unity and interdependence creates a real force trained team.

Planning – there is a logical scheme of the mode of action to be realized as a single plan, but of collective nature, a correct plan, concrete and realistic put in work, or rather, controlled by the theoretical and practical exercises, these are landmarks after which a medical professional in disaster management should lead.

Improvement – will be based on practicing in the field the way of operation and intervention of the forces, which through repeated theoretical and practical exercises will obtain the best parameters of intervention.

Finally time can be controlled or better said, it can be won by the disaster medical doctor for his patients, through a highly professional activity, coupled with practical training of good quality and good physical condition. We highlight the importance of good physical condition of the doctor because he often must deal with major physical effort.

Both emergencies and disasters occur almost always on "the blue sky" or better said - when we least expect it, so to be prepared to encounter them can not be done like the housewives are preparing their storerooms for the coming winter. In December 1989 only the 24-hour break between early events and the ensuing explosion of wounded, saved us, allowing us to prepare for such situation. Thus we could create our reserves in operational medicines with which to resist when at the hospital where shooting alleys. I wonder which hospital in our country has already reserves for such situations?

Such time can be defeated, or should I say won, by planning and exercise with repetitive nature of training, emphasizing that nothing is more damaging than the existence of plans deposited with dust over them which includes only incomplete or inaccurate data that can lead to mistakes in decision making.

4. An unplanned disaster = 2 disasters

Disaster occurs in most occasions, on "the blue sky", without any preparation, so that they take by surprise both the population and in particular the intervention forces. In such cases only a previous preparation of them or well designed and realistic plans can alleviate the severity of the aggressive factor. We should take into consideration the fact that the characteristics of extreme aggression, which surpasses by far the power of response of the special forces, the disaster does not allow efficient use of resources at hand which are however few. Planning is the main activity in period of silence, backed by an intense theoretical and practical verification of the accuracy of the plan.

Lack of a plan before disaster brings:
– Delaied decisions,
– Unrealistic decision-making,
– Increased number of victims,
– Reduced performance of any help,
– Panic, increasing complications,
– Erosion of confidence in leaders.

5. A disaster never comes alone (an evil never comes alone)

It is well known that in disasters, both natural and the technological nature of aggression is given by a multitude of elements. Earthquakes followed by fire can generate explosions. Landslides could break gas pipes and electric lines, causing burns and electrocuted. It appears as an obligation to create disaster action plans which take into account all these issues or at least most of them. This is possible only by knowing the local issues arising from relief, but potentially aggressive nature and technology, manpower, etc. It is preferable that action plans in crisis situations, as preparatory exercises, to be conducted under the slogan "evil never comes alone." Scenarios we create for making a plan have to meet the categorization unluckly or as American authors are expressing "the worst scenario" (see Southern influence where concernes for the crisis are much higher, otherwise the disaster areas are more frequently). As if to further complicate the situation already disadvantageous that the community is into disaster factors impact have multiple aggressors. They often generate secondary effects which can sometimes emulate the main ones. The clearest example is the deep sea earthquake off the Pacific islands which by the devastating wave led to the killing of over 100,000 people. Therefore we will draw up plans to examine all or even a multitude of factors that may make secundary risks of aggression.

6. Realism

Realism in making plans is a basis condition for good activities that are to be effective and useful in disaster. In the process of establishing the plan, whatever category of forces it is referred to, undervaluation is as dangerous as overstatement, both of them can lead to serious errors in calculating the necessary personnel and logistical resources. Thus, the overstatement may create undue pressure on the budget, especially now in times of economic crisis and may lead to cancellation of investments. On the other hand undervaluation may create the impression of meeting all requirements and take a false protection that will be broken only by the realities of disaster. Knowing the realities of "land" is up to the responsable factors, also is the analyze of collateral hazards. Moreover, once achieved, the plan must be tested in the field, through theoretical and practical exercises, which can prove the validity or on the contrary, the limits or shortcomings of the plan.

7. In crisis situations any help is useful

The statement above seems correct at first sight, but the accuracy or validity of it is given by a condition without which the utility of aid can become not only without benefit, but dangerous. The condition is that the doctor should know and be able to monitor, instruct, lead permanently, this aid. Often volunteers, uncontrolled or less controlled by their actions became victims of aggressive factors or worse, by not having a scientific basis for their actions and no necessary training, they also became aggressive for victims. The statement above should be completed as follows: in crisis situations any help is useful under condition that it is driven and controlled by a specialist, who has the possibility of active intervention at any time. Given that most of the times, at the place of accident or illness, the doctor is alone or accompanied only by an ambulance crew, he can be put in a position to ask for help to any / some people nearby. In the most overwhelming cases, any person required demonstrates goodwill, but his solicitude, if not well correlated with the realities of the case, as excessive enthusiasm,

can become harmful to the patient. The most handy example of this are spine injury victims, which in case of inadvertently mobilisation or not transported in special conditions, can suffer nevrax's injuries for good. Therefore when disaster medical doctor asks the help of a foreign person from the team he must carefully monitor and direct its actions. He bears full responsibility for the effects of these gestures, while the person asked to help has no responsibilities in the medical act (issues will be developed in a special chapter on case-related matters of medical activity in the emergency medical system and disaster).

8. Medical doctor specialized in disaster should act as a leader

Especially in multiple emergencies, accidents or mass disasters, disaster medical doctor should act so that he will not allow the arise of panic or hysteria. Behaving by calm and in a balanced way, he can be a real manager of the events in stage. The doctor should be able to use their power of persuasion to give a course of events as close to normal as posible. At any time, a crisis can turn into a real disaster when the human factor loses control.

Conditions required are:

– The better prepared to lead
– In crisis situations anyone can help it he is well-managed
– Leader must be known and recognized by the team
– Teamwork is guarantee of success but also of the security of rescuers and rescue.

9. In emergencies there is no number 1

This axiom refers to both physical facilities and the manpower, thus concerning both logistical issues as particularly problematic of human resources.

In terms of fitting material in emergency kits is not allowed to be a single vial of a particular drug, because when first aid is given in an not lightened street or a like, we can easily break it, not inattention, but because of objectives: dark, sudden movements of a person nearby or ambulance, s.o. On the other hand, when it comes to personal, "law number 9" is also extremely valid, thinking that only a very insignificant event (like solving personal problems) can bereave the emergency services of the essential contribution of a team member.

The situation is even worse in disaster cases when the number of rescuers is well below the minimum requirements imposed by the number of victims in this case.

In this direction is required a special aspect of disaster medicine namely the concern for a very good physical condition of emergency team members.

10. Disaster Medicine, part of the National Security System

Pending national security threats to "health" are not only multiple, but also extremely serious. Easily transpires idea that disasters are unconventional threats to national security, which should involve a great interest from the authorities of our country. Medical management of disasters is thus easily built as an equal component in Romania's national security system, inadequate management or offhanded in the field, can be interpreted as serious failures of the leading factors, that can lead to erosion of confidence in them and even to social movements.

Medical management of disasters is not, but should be a component of the national security, especially in the context of the status of European country of Romania, with the rights but also obligations deriving from here. Health can not be achieved only by national health system, it is the prerogative of the entire society, including political factors and therefore it should be considered an essential component of national security system.

Threats are often insidious, "silent" while installing them in time and have a great impact on the future of the Romanian nation.

Health, as part of the national security system is not only a goal of a political agenda or strategy for social protection, but primarily a goal of maintaining national entity, which must be integrated in the national interest, regardless of socio-political conditions.

The volume and complexity of tasks under the legislation for the Ministry of Health, in areas of mobilization training, participation in NATO actions, civil protection, defense against disasters in peacetime or war, terrorist attacks and intervention in situations of crisis, dictate the Ministry of Health to be the national coordinator in the field of health care strategy.

This requires or should require that the Ministry of Health should be a valuable "colleague", along with other military or non-military structures to make a contribution to achieving functionality of the national security system, both short term and especially long term.

We believe that Romania's health must act as a stabilizing factor in the Balkans, because the export of pathology can be compared at any time to an attack with chemical or biological weapons. This may mean not only lack of security, but is comparable to an export of insecurity.

Conclusions

Disaster Medicine is one of the newest medical disciplines, which generally aims to save lives, but also states (term later added in recent years, demonstrating the evolutionary nature of the specialty), to maintain vital functions and to reduce suffering as possible, to a large number of victims.

It was recognized as a distinct field only in recent decades, but this concept has spread rapidly throughout the world.

Disaster Medicine is a new way to deal with emergencies and is part of the collective mentality and an original health behavior, modern and thus is making the subject of a separate school.

The message that we want to transmit is that the doctor, in disaster situations must meet specific tasks and develop some useful skills to other professionals too, but compulsory for him.

These qualities might be, in a not realy classical order, the followings:

a. spirit of observation, coupled with attention to distributive
b. entrepreneurship, together with a clever mind
c. good work by hand and even technical inclinations
d. tenacity and perseverance in their action
e. confidence in their decisions and actions
f. The desire for self and continuous education.

Perhaps the "decalogue" above seems at first sight something forced or looked out, but it is based on over 30 years practice in the emergency system and we want to be useful primarily for beginners, whose activity lacks precisely by these targets and as possible to clear the work they need to submit.

DECALOGUL MEDICINEI DE DEZASTRU

Rezumat

Nicio regiune din lume, indiferent de timp, nu este ferită de posibilitatea apariţiei unui dezastru, atât natural cât şi industrial, ecologic sau social, ca să nu punem în discuţie şi actele de terorism.

Medicina s-a îmbogaţit în ultimii ani cu o nouă specialitate, medicina de dezastru (în SUA a fost validată ca specialitate aparte în anul 2000), specialitate de graniţă, a cărei introducere o susţinem ca fiind necesară şi în învăţământul medical românesc.