

FIRST AID AT THE WORKPLACE – NEED OR OBLIGATION

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SYNOPSIS: In the work, a presentation is made about the need to provide first aid, as well as other general elements regarding the records and statistics carried out through opinion polls. Definitions, graphs, statistics and suggestive images regarding the need to provide first aid are presented. The authors of the paper believe that first aid must be accessible to everyone and be an integral part of a more extensive development method.

KEY WORDS: first aid, work accident, victim, airway obstruction, cardiopulmonary resuscitation

1. Introduction

Prevention is much better and simpler than treatment. Most of the time, the first person who can provide first aid is family, friends or colleagues because an injury, wound or illness can occur at any time and in any environment. So, each of us should have a minimum of essential knowledge to be able to provide first aid. Moreover, we can all be victims of unforeseen events, such as a storm, flood, earthquake or accident, be it on the road or at work, and first aid knowledge and the speed to intervene can sometimes be vital.

Basic first aid, as defined in Law 95/2006, art. 92, lit. G represents - the performance of life-saving actions to people who have suffered an injury or acute illness, by people without medical training, without the use of specific equipment for this purpose. Basic first aid is given by any person trained in this regard or by persons without training, on the indications of the personnel in the emergency dispatches. [2]

Therefore, any adult person can be trained in basic pre-medical first aid, regardless of education level, income, background.

Regarding first aid at work, it is recommended that every employee has a minimum knowledge of first aid, even if they are not assigned to provide first aid on a regular basis, to be able to intervene if a colleague has a condition of discomfort caused by an illness or is injured as a result of an unforeseen situation. That's why every home, every office and every car should have a minimum first aid kit. Fig. 1.



Fig. 1. The composition of a first aid kit

2. International first aid

At international level, Directive 89/391/EEC of 12 June 1989 on the implementation of measures to promote the improvement of the occupational health and safety, as amended by Directive 2007/30/EC, aims to ensure a high level of worker protection by implementing preventive measures to protect them against work accidents and occupational diseases through information, consultation and training of workers and their representatives. [3]

At European level, the legislation that provides training in the field of first aid varies from one country to another, depending on the internal regulations of each country. In most EU countries, first aid courses are supported by non-governmental organizations specialized in first aid, such as the Red Cross, companies specialized in the training and education of adults or medical institutions. [4]

In EU countries, first aid courses are regulated by law, regarding the number of hours and the standardized curriculum that must include prevention concepts, as well as cardio-pulmonary resuscitation techniques, the use of the defibrillator (automatic or semi-automatic), airway clearance maneuvers and stopping bleeding in case of hemorrhages and wounds. To obtain certification, each participant must complete the curriculum, which includes theoretical and practical parts, and must take a final test. [4]

In France, Article R.241-39 of the Labor Code mentions the details regarding the number of employees in the workshops, who must enter first aid. [4]

"In every workshop where dangerous work is carried out, in every site employing at least 20 persons for more than fifteen days, where dangerous work is carried out, a member of the staff must have received the necessary instructions for rendering first aid in case of expedite. The employees trained in this way cannot be considered as taking the place of the medical assistants provided for in article R.241-35." [4]

Also by Decree no. 2018-1186 of December 19, 2018, automatic external defibrillators must be installed in most units open to the public. Automated external defibrillators include automated and semi-automated defibrillators (AEDs and DSAs). [5]

The defibrillator is a very important device in case of heart disease, easy to use and safe for the victim or the person providing help. [5]

From early 2022, the defibrillator was required for some Category 5 units:

- reception structures for the elderly;
- facilities for disabled people;
- health units;
- railway stations;
- mountain hotels and restaurants;
- mountain cabins;
- closed and covered sports facilities as well as multipurpose sports halls. [5]

3. Local first aid legislation

In Romania, the legislation on first aid at work is based on Law no. 319/2006 on occupational health and safety. According to this law, employers have the obligation to ensure that employees are trained in first aid at the workplace.

According to the Occupational Health and Safety Law, no. 319 / 2006:

"WORK ACCIDENT represents violent injury to the body, as well as acute professional intoxication, which occur during the work process or in the performance of work duties and which cause temporary incapacity for work for at least three calendar days, disability or death". [1]

"FIRST AID consists of all the actions taken immediately after the occurrence of an accident, including work, until the moment of the intervention of specialized medical personnel, with the aim of preventing the jeopardy of the patient's healing, either by the appearance of complications that can make the subsequent therapeutic act more difficult to perform, or by an unfavorable evolution followed by the installation of definitive infirmities or death". [2]

According to art. 94, paragraph 1 of law 95/2006, also called the "Good Samaritan Law", "Persons without medical training who provide basic first aid voluntarily, based on the indications provided by a medical dispatcher or knowledge in the field of first aid by basis, acting in good faith and with the intention of saving a person's life or health, are not criminally or civilly liable." [2]. This paragraph encourages any person certified to complete a basic first aid course to intervene when a victim, whether an acquaintance or a stranger, is injured or requires pre-medical assistance.

4. First aid in school

Some EU Member States have introduced specific requirements for first aid training in schools (even from primary grades) and high schools. The course curriculum is age-appropriate, students are trained in first aid techniques, and successful completion of such a program can be recognized as a first aid qualification. [3]

In Romania, in 2017, 15 senators submitted a legislative initiative to include the subject "First Aid Courses" as a compulsory study subject. The statistics mentioned in the statement of reasons claim that approximately 70,000 Romanians die annually because they are not resuscitated in time and that less than 1% of the nearly two million secondary and high school students have first aid knowledge. The initiative received favorable opinions from the Legislative Council and the Health Committee of the Senate, but the Commission for Equal Opportunities and the Economic and Social Council sent negative opinions. The motivation of the latter was that the introduction of such a course is not justified because the issue is already included as an optional subject. Ultimately, the initiative was rejected. [10]

The only first aid demonstrations that are supported in schools are through the national program "Different School", where students are presented with the importance of knowing the concept of first aid and the essential maneuvers, in order to recognize a serious situation and be able to intervene safely for providing first aid to victims. Fig. 2 and Fig. 3.



Fig. 2. Presentation of first aid course in schools



Fig. 3. Presentation of first aid course in schools

5. First aid training

To provide first aid, it is important to know the 4 essential steps:

1. Securing the area and the safety of the rescuer - before intervening, in any situation it is necessary to take measures to prevent injury, infection or even illness to us, the rescuers, because if we decide to put ourselves in a dangerous situation we risk becoming victims. The preferable situation is to have one victim and one rescuer, not 2 victims and no rescuer.
2. Primary assessment of the victim – after we have assessed the situation and we have determined that it is safe for us to intervene, the next step is to assess the victim's condition (if he/she is conscious, is breathing or has other life-threatening injuries).
3. Calling the emergency services (112) – after we have assessed the victim, we will have to call the emergency services to request their specialized help (qualified services). It is important to give the dispatcher clear information about the location where we are in order to locate as quickly as possible, the number of victims and their condition (conscious, unconscious, in cardio-respiratory arrest, with bleeding or severe burns). The dispatcher will determine the severity of the situation and communicate with all departments to send qualified first aid crew (ambulance), fire brigade or police if necessary.

4. Providing the actual first aid – this is the stage in which we provide first aid, based on the knowledge we have or under the guidance of the dispatcher (112 call).

6. Case study

On Wednesday, 26.04.2023, a 14-year-old student choked with a jelly, at Geaca Secondary School, in Cluj county. In a short time, due to the obstructed airway, the girl lost consciousness and the teaching staff called 112. When the SMURD (Mobile Emergency, Resuscitation and Discharge Service) crew arrived, basic resuscitation maneuvers were applied to the girl by the family doctor from the village medical office and the nurse medical from the Secondary School. SMURD and SAJ (County Ambulance Service) medical teams resuscitated the teenager and cleared her airways with the help of special equipment. Shortly after, the girl's vital signs returned. The student was picked up by a SMURD helicopter and was urgently transported to the UPU (Urgent Reception Unit) of the Children's Hospital in Cluj-Napoca. [7].

Doctor Corina Dumitru from the Gherla Ambulance declared: "It was blocked (the jelly) at the entrance to the trachea, it practically stuck to it. It could only be visualized with the laryngoscope. It was a white and green apple-flavored jelly. They are quite large jellies, available in supermarkets, they are very dangerous. Unfortunately, it took time for us to get to Geaca, precious time during which the girl's brain was without oxygen. That's why we encourage everyone to learn first aid measures. The Heimlich maneuver, performed correctly, could have been lifesaving". [8]

In this example, a few simple but effective maneuvers, applied even by the teaching staff, could have prevented this serious situation. Airway obstruction can be partial (incomplete) or severe (complete). In the case of incomplete obstruction (when the victim moves his hands to the throat but can still breathe and speak), as first aid measures we encourage the victim to cough and reassess him periodically because the foreign object can migrate and completely block the airway leading to a complete airway obstruction, with conscious victim.

In the situation where we have a victim with complete, severe airway obstruction (when the victim has his hands positioned in the neck area and cannot cough or breathe) but is conscious, as first aid measures we place the victim in a slightly bent position and apply 5 inter scapular blows (between the shoulder blades) Fig 4, then we alternate with 5 abdominal compressions (Heimlich maneuver - one of the hands is positioned with a closed fist between the navel and the sternum of the victim and the second hand is placed over the first and suddenly pulled from the bottom, upward and from front, towards the back). Fig. 5 și Fig. 6.



Fig. 4. Interscapular strikes



Fig. 5. Abdominal compressions, the Heimlich maneuver, positioning the fist between the navel and sternum



Fig. 6. Abdominal compressions, Heimlich maneuver, the second hand is placed over the first and suddenly pulled from the bottom up and from the front to the back

If the victim loses consciousness, we will start the cardio-pulmonary resuscitation maneuvers – we kneel next to the victim and position the palm of one hand on the victim's chest, in the middle of the inter-nipple line. We position the second palm, over the first, with the fingers interlaced, keeping the arms straight. We apply 30 chest compressions, at a third of the depth of the trunk (5-6 cm in the case of an adult), with a rate of 100-120 compressions/minute, Fig. 7, then we apply 2 rescue breaths (mouth-to-mouth breaths), Fig. 8.

As a particularity, in the case the victim is a children younger than 8 years old, we will start with 5 rescue breaths and the we will make the chest compressions with one hand, and in the case of babies (newborn-12 months), we will start with 5 rescue breaths and the we will make the chest compressions with 2 fingers.



Fig. 7. Applying chest compressions to a victim in cardio-respiratory arrest



Fig. 8. Applying ventilations to a victim in cardio-respiratory arrest

If resuscitation is started in the first minutes after the cardiorespiratory arrest is established and if it is maintained until the arrival of the ambulance, the chances of the patient's survival and recovery increase by more than 75%. [9]

7. Conclusions

The purpose of this paper on the need to acquire first aid knowledge is to form an overview of the basic pre-medical aid provided until the ambulance arrives. [3]

In the case study presented above, if the teachers at the school had known how to intervene quickly, a tragedy could have been avoided. So, whatever field of activity we work in (construction, agriculture, education, HoReCa, etc.) sometimes basic first aid knowledge can make the difference between life and death.

Following an opinion poll carried out on a sample of 35 people, with ages between 16 and 65, consisting of students, employees and pensioners, 100% of the people interviewed answered "yes" to the question of whether they had heard of the first aid, Fig. 9. When asked if they participated in first aid trainings, only 11 respondents said "yes" (31%) and 24 said "no" (69%), Fig. 10, and to the question of whether it is necessary to introduce first aid in schools or at the workplace, 89% of the people interviewed answered "yes" and 11% answered "I don't know". Fig. 11.

Row Labels	IF HE HEARD OF F.A
YES	35
Grand Total	35



Fig. 9. Chart on the survey of people who have heard of "first aid"

Row Labels	HAVE YOU ATTENDED FIRST AID COURSES?
YES	11
NOT	24
Grand Total	35

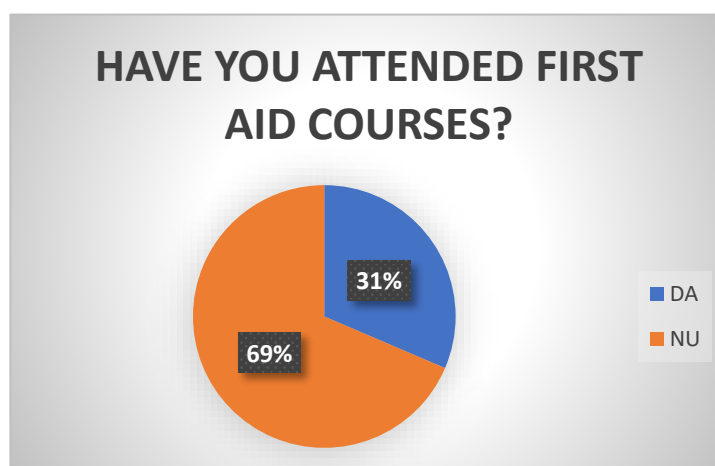


Fig. 10. Chart on the survey of people who attended first aid courses

Row Labels	IF IT IS NECESSARY TO INTRODUCE FIRST AID INTO SCHOOLS/WORK
YES	31
I DO NOT KNOW	4
Grand Total	35



Fig. 11. Graphic regarding the

We believe that participation in first aid courses should not be conditional on obtaining a certificate required at the workplace. First aid courses are vital for personal protection, but also for helping others in special situations. A first aid training is not only useful in the workplace, but also in everyday life. Unforeseen situations arise at any moment, in which our loved ones need support. First aid dexterity is extremely important when we don't have quick access to specialized medical help. [11]

We also believe that first aid is not a substitute for emergency services, it is a vital first step in providing a quick and effective intervention that helps reduce serious trauma and improve the chances of survival. [6]

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