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The role and responsibilities of the paramedic in the State Medical Rescue System

Abstract

The profession of paramedic is a recent profession functioning in Poland since 1992. Over those 27 years the training, the role and responsibilities given to paramedics have undergone many changes. Initially, paramedics were trained in two-year colleges (post-secondary schools) and were not qualified to administer medical emergency treatment (medical rescue procedures) at the place of accidents. At present, they are educated at universities and are qualified to apply emergency medical treatment by themselves, inter alia to ensure the safe transport of the injured person in a life-threatening emergency, provide mental support to the injured, and carry out health education and promotion. Moreover, they are the core personnel of the State Medical Rescue System (PRM).

The goal of the study was to present the history of the establishment of paramedical profession and its current role and responsibilities in the PRM.

Keywords: medical rescue, system State Medical Rescue System, paramedic, training, emergency medical treatment.

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INTRODUCTION

The immense pace of life in contemporary societies, introduction of new industrial and construction technologies, development of car, railway and air transport, presence of tensions in international relations, global threat of terrorist attacks, and the increasing number of natural or man-made disasters, impose increasingly higher demands on emergency systems and services. Rescuing the sufferers in life- and health-threatening conditions, regardless of causes and circumstances, requires, inter alia, the proper preparation of the medical personnel working in the medical rescue system. Training of paramedics serves this purpose.

The establishment and development of the profession of paramedic in Poland

The profession of paramedic in Western European countries and in the USA has a long-standing history, achievements and advanced systems of functioning. In Poland, the idea of establishing the profession of paramedic was born in the early nineteen nineties in Poznan. A team of experts headed by Prof. Witold Jurczyk, MD, PhD and Krzysztof Panufnik, MA prepared a training syllabus for the paramedical profession. In 1992 the first enrolment was made for the Faculty of Paramedics at the Polish Red Cross Medical Vocational College in Poznan. Following Poznan's example, other post-secondary schools/colleges in Poland began to establish Faculties of Paramedics. Regrettably, after the first graduates of post-secondary schools were trained, dilemmas appeared concerning the legal grounds for the practice of the profession of paramedic.

The lack of legal acts that would define the functioning of the medical rescue system, including the professional competencies, resulted in controversies pertaining to the employment of graduates of post-secondary medical schools and the interventions that they performed; inter alia, paramedics were not qualified to administer medical emergency treatment (medical emergency/rescue procedures) at the place of accident [1-2]. The lack of this competence caused them to be usually employed as nurses or stretcher-bearers [3].

The problems concerning paramedics were to be regulated by the Act on the State Medical Rescue (PRM). Work on this law started in 1999. The final version of the Act on PRM of 25 July 2001 comprehensively regulated the responsibilities of the State in administering medical emergency treatment towards each person in life- and health-threatening emergency. The system was established to implement state's tasks of providing assistance to every person in a state of a health-threatening emergency, which should be understood as a state of sudden or anticipated symptoms of health deterioration, which may result in serious damage to the body's functions or injury or loss of life, requiring immediate medical rescue and treatment. Act on the State Medical Rescue 2006 indicates two types of system units, i.e. hospital emergency departments and medical emergency teams including air rescue teams. System units must cooperate and complement each other. The condition for the participation of these units in the system is formal agreement on providing healthcare services and contracts for performing medical rescue procedures.

It is also specified that medical emergency procedures in the PRM units would be performed by the emergency physician,

emergency nurse and paramedic, and the profession of paramedic could be practiced by a person with full legal capacity, who obtained a degree in higher professional education in medical rescue in Poland or obtained an equivalent degree abroad recognized in Poland or received the title of paramedic in accordance with the previous rules in force in post-secondary medical schools before 30 September 2006. The law also stipulated that as of 1 January 2004 there would be no enrolment for post-secondary schools for paramedics. Regulations for the Act would define the scope of medical emergency procedures that could be performed by a paramedic [1].

In order to meet the provisions of the foregoing Act, paramedics began training at universities. In the academic year 2000/2001 the Medical University of Silesia and Medical University of Bydgoszcz carried out the first enrolment of future paramedics. In the next years, to meet the needs of new legal solutions, the training of paramedics began as a specialty at different study programs (e.g. as part of the nursing program). At that time in the legal order there was no separate study program of medical rescue or the binding Poland-wide training standards on this course of study. At the Medical University of Lublin the training of future paramedics began from the academic year 2003/2004 according to the proprietary syllabus and curriculum developed by Mariusz Goniewicz, MD, PhD [1].

The Act of 25 July 2001 on State Medical Rescue came into effect (from January 2003) to a limited extent and was valid as such until 31 February 2006. This resulted in the outdatedness and dysfunction of some of its adopted provisions, and the lack of many regulations, inter alia, a regulation defining the range of medical emergency procedures which could be applied by a paramedic independently or under an emergency physician's supervision. The lack of these legal acts caused next problems connected with the training and the practice of their profession by paramedics. Medical universities had to approve syllabuses and curricula without knowing the training standards for this special profession, and university teachers had to conduct the training of paramedics without knowing what role the latter would perform in the future medical rescue system and what medical procedures they would be allowed to perform, whereas bachelor degree program graduates with paramedic specialty had problems with employment and obtaining qualifications to perform medical emergency procedures at the place of accident [1].

In 2007 the legal system was regulated in respect of training, employment and performing of medical emergency procedures (treatment) by paramedics. On 1 January 2007 the Act of 8 September 2006 on the State Medical Rescue came into force. The Law specifies the rules of organization, functioning and funding of the medical rescue system (PRM), and the rules of provision of training in giving first aid. It also directly regulates the requirements, in particular qualifications regarding a paramedic. In 2007 the Minister of Health Regulation of 29 December came into force, concerning a detailed range of medical emergency procedures that can be performed by a paramedic [4-6].

Specification of the essence of paramedic profession, definition of the range of medical emergency procedures that s/he can perform, definition of the rules of a paramedic's cooperation with others in the medical rescue system, inclusion of the paramedic (medical rescue) course in the list of study programs, and development of training standards for this study

program became the basis for the continuation of work on changing the organization of training for the paramedic profession and the evaluation of the role and responsibilities of a paramedic in the PRM (State Medical Rescue) system [1].

The role and responsibilities of the paramedic nowadays

The still effective Act of 8 September 2006 on State Medical Rescue has been amended several times. At present, under Art. 11 paragraph 1 of the Act, the practice of the profession of paramedic consists in the execution of the following professional responsibilities:

- Provision of health services, including medical emergency procedures performed by a paramedic or under a physician's supervision;
- Medical protection of persons present at the scene of event and taking measures to prevent an increased number of people in medical emergency;
- Transportation of people in medical emergencies;
- Provision of psychological support in a situation causing a medical emergency;
- Health education and health promotion [8-9].

The Minister of Health Regulation of 20 April 2016 on medical emergency treatment and health services other than medical emergency treatment that can be provided by a paramedic on his/her own without a physician's supervision specifies in detail the procedures and medicines that a paramedic can administer independently or after consulting a doctor (Table 1 and Table 2) [10].

TABLE 1. List of medicines which a paramedic may administer from May 2016.

1. Acidum acetylsalicylicum	26. Ketoprofenum
2. Adenosinum	27. Lidocaini hydrochloridum
3. Amiodaroni hydrochloridum	28. Magnesii sulfas
4. Atropini sulfas	29. Mannitolum 15%
5. Isosorbidi mononitras	30. Metamizolum natriicum
6. Budesonidum	31. Metoclopramidum
7. Captoprilum	32. Metoprololi tartras
8. Clemastinum	33. Midazolamum
9. Clonazepamum	34. Morphini sulfas
10. Clopidogrelum – after ECG teletransmission and after consulting a doctor evaluating the ECG record	35. Naloxoni hydrochloridum
11. Dexamethasoni phosphas	36. Natrii chloridum 0.9%
12. Diazepamum	37. Natrii hydrogenocarbonas 8.4%
13. Drotaverini hydrochloridum	38. Papaverini hydrochloridum
14. Epinephrinum	39. Paracetamolum
15. Fentanylum	40. Isotonic multi-electrolyte physiologic saline
16. Flumazenilum	41. Colloid solutions that do not require blood sampling for blood grouping before injections and cross-tests
17. Furosemidum	42. Salbutamolum
18. Glyceroli trinitras	43. Solutio Ringeri/ electrolyte solution
19. Glucagoni hydrochloridum	44. Thiethylperazinum
20. Glucosum 5% solution for intravenous infusion	45. Ticagrelor – after EKG teletransmission and after consulting a doctor evaluating the EKG record
21. Glucosum 20% solution for injections	46. Medical oxygen
22. Heparinum natriicum	47. Urapidilum
23. Hydrocortisonum	
24. Hydroxyzinum	
25. Ibuprofenum	

TABLE 2. Medical rescue procedures that can be performed by paramedics on their own.

1. Assessment of the patient's condition
2. Placement of the patient in a position appropriate for the patient's condition or injuries sustained
3. Start and performance of basic and advanced circulatory-respiratory resuscitation in accordance with current medical knowledge
4. Basic airway management
5. Advanced restoration and maintenance of airway patency using in particular: <ul style="list-style-type: none"> • oropharyngeal tube • nasopharyngeal tube • supraglottic devices • cricothyrotomy
6. Suction of airways
7. Start active oxygen therapy or assisted respiration or artificial pulmonary ventilation using basic and advanced methods, and oxygen or air, including the use of respirator.
8. Performance of intratracheal intubation and non-invasive ventilation in sudden circulatory arrest
9. Manual defibrillation based on EKG or cardiac monitor
10. Automated defibrillation
11. Transcutaneous electrical stimulation of the heart in bradyarrhythmias in hemodynamically unstable patients
12. Perform cardioversion in tachyarrhythmias in hemodynamically unstable patients
13. Performance and assessment of an ECG
14. Monitor the functions of the respiratory system
15. Monitoring of the functions of the circulatory system by non-invasive methods
16. Peripheral venous cannulation and external jugular vein cannulation
17. Performance of intraosseous infusion, using a ready-to-go set
18. Intravenous, intramuscular, subcutaneous, oral, sublingual, oral, inhalation, intratracheal, intrarectal and intraosseous administration of medication
19. Decompression of tension pneumothorax by thoracocentesis
20. Determination of critical parameters using available equipment
21. Wound dressing
22. Control of external bleeding
23. Immobilization of fractures, dislocations and sprains
24. Immobilization of the spine, with special emphasis on the cervical spine
25. Delivery of a baby
26. Conduction of primary and secondary triage
27. Preparation of the patient for transport, and medical care during transport
28. Measurement of core temperature
29. Administration of medicines specified in the regulation

Additionally, the Health Minister's Regulation of 3 2017 amending the above-cited regulation allows paramedic to administer coagulation factors concentrate and desmopressin in medical emergencies, using the patient's own resources [11].

The currently effective Act on State Medical Rescue also specifies places where a paramedic can perform his/her professional responsibilities (Table 3) [9].

TABLE 3. Places in which a paramedic can perform his/her professional responsibilities.

1. Healthcare providing entities
2. Units of mountain and ski rescue services
3. Units of water rescue services
4. Units of mine rescue services
5. Units of Maritime Search and Rescue Service
6. Units subordinate to the Minister of National Defense that are not health-care providers
7. Fire protection units included in the National Firefighting and Rescue System during firefighting and rescue operations, drills and training <ul style="list-style-type: none"> • as part of counterterrorism operations conducted by services subordinate to or supervised by the relevant Internal Affairs Minister • in special-purpose riot police units and counterterrorism squads • as part of responsibilities of State Protection Service • as part of responsibilities of Border Guard
8. At airports
9. Health providers executing tasks concerning medical coverage of mass events
10. Units of medical transportation service
11. Sobering-up stations
12. In the capacity of emergency medical dispatcher
13. The following are also regarded as the exercise of the profession of paramedic: <ul style="list-style-type: none"> • teaching the profession of paramedic and working for in-service training of paramedics and emergency medical dispatchers; • organizing and conducting classes in first-aid, qualified first aid and in medical emergency procedures; • conducting research or development work in medical rescue; • leadership and management of : a) paramedics, b) emergency medical dispatchers; • employment or serving at administrative posts at which duties are performed in connection with the preparation, organization or supervision of the provision of health services in the area of medical rescue.

Paramedics are obliged to continually undergo in-service training. Pursuant to the Health Minister's Regulation of 2 October 2017 on in-service training of paramedics, they can obtain points through courses culminating with an examination, participation in seminars, participation in congresses, conventions, conferences or symposiums, and additional points for delivering a report, for participation in training sessions, active participation in training workshops and other forms of training organized by the employer, participation in courses conducted via television and Internet, scientific publications, for obtaining a PhD degree and higher degrees, participation in medical rescue championships or competitions, and through self-education preparing for the proper implementation of assignments as part of training for paramedics [12].

CONCLUSIONS

Over the 27 years of the existence of the profession of paramedic it has undergone considerable changes. In modern medical rescue system, great attention is paid to actions taken at the scene and then during patients' transport. Proper organization of tasks allows for saving lives at the scene of an accident as well as for efficient evacuation and treatment of the victim in a specialist center in accordance with his/her state.

In accordance with the requirements of the currently effective legal regulations, a paramedic is a person who can communicate with the injured person, can act in health- or life-threatening emergencies, and knows the rules of cooperation in the integrated medical rescue system. A paramedic, apart from having advanced knowledge, should be characterized

by the ability to act flexibly, quickly analyze the situation, make decisions, cooperate with other members of the interdisciplinary team, and be responsible for taken decisions. The profession of paramedic requires conscientiousness and self-discipline, responsibility, readiness to help others, and personal involvement. The diverse circumstances in which paramedics act make it mandatory for them to be healthy, fit, and able to cope with stress, and to have individual predispositions and motivation for administering emergency medical treatment in accidents and disasters.

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