

Chair of Trauma and Emergency Medicine, Medical University of Lublin

ADAM NOGALSKI, JACEK SOMPOR, ABDULSALAM AL-HAYOUTI,
JERZY KARSKI

Education in Emergency Medicine

Advances in contemporary medicine bring not only new possibilities but also new requirements for everyone involved in rescuing life and health of their patients. The growing speed of the pace of life in today's society results in a markedly increasing percentage of life and health threat for individual patients. This tendency is observed in all age groups, not only in children, adolescents and professionally active people but in the elderly as well. On the one hand, this situation requires building up a modern system of emergency services based on up-to-date knowledge of emergency medicine in the structure of already existing modern health protection and, on the other hand, it also requires much higher social awareness and abilities to make use of this system. A governmental program named "Integrated Emergency Medicine" together with National Emergency Medicine Act (12) gave the legal and substantive grounds for building up the system of medical emergency in Poland which consists of three units: Emergency Department, Prehospital Emergency Services (ambulances) and Dispatch Center; however, only hospital units are authorized to realize educational aims. On the basis of these legal acts, new directions have been charted in emergency medicine and in-service training courses for doctors, nurses and other medical personnel involved in emergency practice; a new medical profession came into being – a licensed medical rescuer.

In the late 1990s building up a modern emergency medicine system was launched in Poland which was meant to meet the requirements of the European Union but first of all it aimed at improving the quality of treatment of patients under life or health threat (4). With the development of the system a new medical specialty emerged, i.e. emergency medicine, which has been acknowledged as one of the basic specialties and has become an independent branch of medicine, following the model accepted in the developed countries. The organization of emergency medicine in Poland is very well advanced with regard to the medical base or technical means but, unfortunately, the level of training of the medical personnel as well as social education in health or life-threatening situations is still unsatisfactory. This situation calls for new educational tasks which will result in new highly-skilled medical personnel ready to practice emergency medicine. Medical Universities, where emergency medicine has been taught for a few years as a separate subject, play a crucial part in realization of this project.

MATERIAL AND METHODS

Review of professional literature and currently applicable legal acts concerning under- and post-graduate training in emergency medicine and our own experience obtained from realization of emergency specialization program, its supervision in the Lublin province as well as in the emergency

department in Lublin gave the grounds for conducting a comparative analysis of the current realization of emergency medicine educational program in Poland and in other countries.

The study presents the scope of educational tasks in emergency medicine training as well as currently applicable educational programs for the training of medical personnel and other social groups. It also defines authorized subjects responsible for emergency medicine education according to the taught level and scope of knowledge, it also points out erroneousness in the already existing educational system. The study also presents the assessment of current educational programs for the students of Medical Universities in Poland. It also gives propositions of changes to be introduced into the already existing educational program, which is still unsatisfactory as far as the specificity of emergency medicine in children is concerned.

RESULTS

According to the currently applicable legal regulations the main groups of medical personnel requiring different educational forms of emergency medicine training are: I. Medical personnel (physicians, nurses and medical rescuers). II. Specialized lifesaving services (fire brigades and other institutional emergency teams). III. Social groups which, due to the character of their work, are connected with the rescuing system (policemen, civil guards, drivers, railway workers, airport workers, teachers and unskilled health service workers, i.e. nursing assistants, orderlies etc.). IV. General public (adults and adolescents). Various institutions are assigned to carry out the training program in each group but elaboration of educational programs concerning emergency medicine is the duty of those who are responsible for education in emergency medicine. Each of these groups is assigned a different range of services which should be applied in emergency. Emergency treatment – specialists in emergency medicine; other emergency activities – other specialists and remaining medical staff; professional first aid – paramedics; first aid with additional assistance – group 3; casual first aid – general public).

I. The aim of medical personnel training, i.e. physicians, nurses and rescuers, is to provide professional staff for employment in specific lifesaving units. There are two stages in the process of acquiring the necessary knowledge and skills: undergraduate education and professional training accomplished in the course of postgraduate education. Medical universities are responsible for carrying out the training program in the course of undergraduate education, while the postgraduate training is the responsibility of medical universities and emergency units accredited for carrying out this type of training.

1. Undergraduate training concerns medical students, dentistry students and student nurses at medical universities, students of lower level nursing schools, medical colleges as well as medical rescuers. All Polish medical universities included emergency medicine into their students' educational program in 2001 and the amount of teaching hours is 100, 20–30% of the time being devoted to disaster medicine. In most of the medical universities the subject is entirely covered during the fifth year of studies.

2. Postgraduate training is meant for doctors and nurses specializing in emergency medicine or doing other medical specializations as well as for medical rescuers, being in agreement with their specialization educational program. The training includes: for doctors – a two-week partial training in the course of their postgraduate training and then a one-year specialization training in a hospital emergency department as a part of the specialization course in emergency medicine training or a two-week training in a hospital emergency department in the course of another medical

specialization training. Specialization training for nurses specializing in emergency medicine is also obligatory. Training of medical personnel takes place in the accredited teaching units. Emergency Departments (ED), which are the units of the emergency system, have clearly specified tasks and qualifications which are different for different categories of ED.

Division of EDs according to educational qualifications:

a) Clinical Departments of Emergency Medicine – they are the hospital background for the didactic units of the medical universities, they carry out the training for the medical and dentistry students as well as other student groups, supervise the in-service training courses in casual and professional first aid organized by different institutions, carry out postgraduate training courses for doctors, dentists and nurses in agreement with specific training programs, specialization courses obligatory to become a specialist in emergency medicine (11 in the new specialization program) as well as other in-service training courses obligatory to become a specialist in a different branch of medicine. They also conduct internal training courses for ED staff as well as in-service training courses for other hospital wards staff and they teach procedures in life-threatening situations as those to be used in mass and catastrophic events. They are also obliged to carry out health promotion and first aid programs for the patients and their families.

b) Accredited EDs are authorized to conduct postgraduate training courses in emergency medicine. They may be accredited for conducting specialization training courses in emergency medicine (a one-year specialization training in the course of emergency medicine specialization training) or they may be accredited for conducting partial courses included in the program of other specialization training. These units are also authorized and obliged to conduct internal training courses for ED staff as well as in-service training courses for other hospital wards staff and are to teach handling life-threatening situations and procedures in mass and catastrophic situations. In case they are not clinical departments, they do not have the right to conduct undergraduate training courses, specialization courses in emergency medicine and they are not allowed to supervise first aid training courses conducted by other institutions. These EDs also carry out health promotion and first aid training for the patients and their families.

c) EDs without accreditation have no right to conduct either undergraduate or postgraduate training, but they are authorized and obliged to conduct the internal training for ED staff teaching handling life-threatening situations and mass and catastrophic procedures. These EDs are obliged to train patients and their families in health promotion and first aid.

II. Rescue teams training: specific social groups and institutions where first aid skills should be markedly extended and refined because of their obligations to the public and professional requirements are: fire brigades, mountain rescue services, and the like, Red Cross, company rescue teams, etc. Their work is by no means of less importance in the rescuing system than the work of medical services. It is them who are responsible for taking up immediate action and intervention in case of emergency and handing them over to medical personnel. Bearing this in mind it becomes obvious that their knowledge and training should be much extended in comparison with the rest of the society. Training for these social groups is based on proven educational programs with many practical skills exercised on a regular basis to prepare them for effective intervention in any conditions. Realization of these educational programs, though carried out as internal training for each specific group, should take place under supervision of the medical authorities responsible for education in emergency medicine, so far; however, this kind of cooperation has been very limited.

III, IV. Training of society members and professional groups involved in emergency system: Casual first aid or professional first aid courses are currently organized by different institutions

or even individuals, and their programs are not verified, because in the light of currently applicable legal regulations there is no need for any competent institution to give their approval.

DISCUSSION

Two institutions are responsible for carrying out the educational tasks in specific medical domains: medical universities and a competent medical society. In case of emergency medicine they are: university department of emergency medicine (the Chair, Clinics or Departments of Emergency Medicine) and Polish Society for Emergency Medicine together with its regional branches. Currently, realization of undergraduate emergency medicine training in Poland is based on educational programs elaborated independently by medical universities and, even though the subject matter is similar, they differ in the duration of the training (30 to 110 hours) and the form of getting the credit at the end of the course (examination or signature). This situation is unfavorable because of the inconsistencies in the knowledge and skills acquired by the students at different universities as well as because of the difficulty in adjusting the program for those of the students who wish to transfer to a different university in the course of their studies. Efficiency of unified undergraduate training programs, or even rotational training in different academic units, has been well documented in the countries where emergency medicine as a separate specialty has been functioning for many years (1, 2). Polish students cover emergency medicine during the fifth year of their studies. However, it seems that dividing the program into a few academic years would allow for its gradual implementation. The system of postgraduate education approved in Poland assumes a 5-year specialization program of training in emergency medicine ending up with the state exam (8, 10). Specialization training in emergency medicine includes various forms of acquiring knowledge and practical skill: major training, in-service training. Major training courses in emergency medicine are carried out in accredited emergency departments. Educational tasks of emergency departments are regulated by law (9, 10) which makes them responsible for carrying out emergency medicine training for both medical personnel and the patients treated in a given ward. The range and extent of the training is obviously different, yet, this widely understood education is an important part of the wards performance. Emergency medicine deals with interventions in life- or health-threatening situations independently of etiology, both in children and adults. Unfortunately, many Polish medical universities have included only several teaching hours on management of children. The management of life- or health-threatening situations in children has its own specificity and differs so much from the management of adults that it needs a separate theoretical and practical training requiring many more teaching hours than are available today. This has been documented and confirmed by many scientific studies conducted by foreign researchers (6, 15). In postgraduate training this subject is also of marginal importance. Total duration of major training is over four years, yet, only two months are to be spent in the pediatric ward, there is no requirement for accomplishing a training in the children's emergency department or children's surgical ward (8). Doctors who work with children in children's emergency departments should be given an opportunity to confirm formally their specific skills in dealing with emergency children patients by obtaining sub-specialization in children's emergency medicine. This has been achieved in the countries where emergency medicine and children's emergency medicine have been functioning for years (2, 5, 13, 15). Learning basic practical skills and gaining knowledge on giving first aid by as many people as possible is a very important element of social awareness. Prompt initiation of first aid procedures by casual witnesses is most often a decisive factor for the victims survival or the extent of future incapacity.

Therefore, the developed countries emphasise more and more strongly the systemic education in first aid procedures as early as primary school and then during secondary and higher education (11). Prompt and appropriate first aid intervention may decide about the victim's survival and appropriately applied procedures may be helpful in the future treatment. Thus, teaching the society appropriate health and lifesaving procedures and skills to recognize a circulatory arrest correctly and abilities to conduct basic resuscitation procedures are priorities in emergency medicine education. It is also very important to inform the society how the rescuing system functions in Poland and give guidelines on the acquisition of those skills and their use in emergency situations. A sudden increase in the demand for training in first aid, which has been observed in Poland for the last several years, is a positive phenomenon. Yet, it is quite often misused because of commercial reasons. Such a situation often leads to distorting the model and idea of education in first aid procedures and lowering its standards. This can be exemplified by various courses in first aid for different social groups like drivers, young people or professional groups. Lack of a sufficient number of specialists in emergency medicine capable of meeting the demand is the major drawback in the education in emergency medicine (3, 7, 14). At present in Poland there are only 280 specialists in emergency medicine and not all of them are professionally active in emergency medicine education. Lack of explicit legal regulations concerning education in emergency medicine also hinder the efforts of this small number of specialists, and if we add to it the resistance of the representatives of other medical specialties, which is not unusual, unsatisfactory progress in emergency medicine education seems to be quite understandable. Nevertheless, a dynamic progress in the development of this branch of medicine observed in Poland in the recent years allows for optimism as far as its future development is concerned, also in the aspect of education.

CONCLUSIONS

1. All the forms of education in emergency medicine should be conducted on the basis of the programs approved by Polish Association of Emergency Medicine which is authorized to supervise the scope and quality of education in all forms of training in emergency medicine.

2. Lack of explicit legal regulations allows latitude in the choice of educational subjects and quality in many forms of emergency medicine education; only sorting out educational programs can guarantee maintaining high educational standards which will keep pace with increasing international requirements.

3. The major problems connected with education in emergency medicine in Poland are the following: • lack of obligatory directives and gaps in legal regulations concerning qualifications and obligations of those who are to conduct educational training in emergency medicine • lack of unified educational programs for undergraduates at medical universities with regard to the scope of knowledge, subject matters and duration of particular trainings and courses • slow progress in the education of medical personnel of the emergency system in Poland.

4. Management of health or life-threatening conditions in children is so specific and different from management of these conditions in adults that it requires a separate theoretical and practical training, which calls for modifications of educational programs for both under- and postgraduates.

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SUMMARY

Advances in contemporary medicine bring not only new possibilities but also new requirements for everyone involved in rescuing life and health of their patients. The growing speed of the pace of life in today's society results in a markedly increasing percentage of life and health threat for individual patients. On the one hand, this situation requires building up a modern system of emergency services based on the up-to-date emergency medicine in the already existing structure of modern health protection and, on the other hand, it also requires much higher social awareness and abilities to make use of this system. With the development of the structures of the modern system of emergency, which has been forming in Poland since the 1990s, a new medical speciality, i.e. emergency medicine, came into being. A growing demand for skilled medical staff in the new structures

of the system of emergency as well as growing social awareness have made it necessary to work out new forms of education in the field of emergency medicine for different social circles. The aim of the work was to present a range of educational tasks in the process of teaching emergency medicine, defining authorized subjects responsible for emergency medicine education according to the taught level and scope, and pointing out erroneousness in the existing education system. Having analyzed obligatory legal regulations, obligatory educational programs and reviews of professional literature, the following conclusions were formulated: 1) All forms of education in emergency medicine should be based on educational programs approved by Polish Association for Emergency Medicine, which is authorized to conduct supervision of the range and quality of all forms of education in emergency medicine; 2) The system of under- and post-graduate education of physicians who are to practice emergency medicine still calls for improvement in the form of creating detailed educational programs to meet international standards and recommendations made by Polish Association for Emergency Medicine; 3) Lack of explicit legal regulations still allows latitude in the choice of the range of educational subject matters as well as in the quality of many forms of emergency medicine education. Only sorting out educational programs can guarantee maintaining high educational standards which will keep pace with increasing international requirements.

Edukacja w medycynie ratunkowej

Rozwój współczesnej medycyny niesie ze sobą nie tylko nowe możliwości, ale również coraz wyższe wymagania w stosunku do wszystkich zajmujących się ratowaniem zdrowia i życia pacjentów. Rosnące tempo życia rozwijających się społeczeństw pociąga za sobą znaczne zwiększenie odsetka nagłych zagrożeń życia i zdrowia. Sytuacja taka wymaga z jednej strony budowania w strukturze ochrony zdrowia nowoczesnego systemu ratownictwa medycznego opartego na współczesnej wiedzy z zakresu medycyny ratunkowej, a z drugiej – znacznie większej świadomości społecznej i umiejętności korzystania z tego systemu. Wraz z rozwojem struktur nowoczesnego systemu ratownictwa, który w Polsce tworzony jest od końca lat 90., zaczęła kształtować się nowa specjalność medyczna, jaką jest medycyna ratunkowa. Wzrost zapotrzebowania na wykwalifikowany personel medyczny w strukturach systemu ratownictwa oraz rosnąca świadomość społeczeństwa spowodowały konieczność opracowania nowych form edukacji w dziedzinie medycyny ratunkowej dla różnych kręgów odbiorców. Celem pracy było przedstawienie zakresu zadań edukacyjnych związanych z medycyną ratunkową, określenie podmiotów uprawnionych i odpowiedzialnych za edukację z dziedziny medycyny ratunkowej w zależności od poziomu i zakresu kształcenia oraz wskazanie na istniejące nieprawidłowości w systemie kształcenia. Na podstawie analizy obowiązujących przepisów prawnych, obowiązujących programów nauczania oraz przeglądu piśmiennictwa sformułowano następujące wnioski: 1. Wszystkie formy kształcenia w zakresie medycyny ratunkowej powinny być prowadzone w oparciu o programy nauczania zatwierdzone przez Polskie Towarzystwo Medycyny Ratunkowej, które upoważnione jest do sprawowania nadzoru nad kształtem i jakością nauczania z zakresu medycyny ratunkowej w Polsce. 2. System kształcenia przed- i podyplomowego lekarzy, którzy zajmować się będą medycyną ratunkową, nadal wymaga udoskonalenia przez opracowanie szczegółowych programów, opartych na międzynarodowych standardach i zaleceniach towarzystw naukowych. 3. Brak jednoznacznych uregulowań prawnych powoduje, że w dalszym ciągu istnieje duża dowolność w zakresie tematyki i jakości wielu form kształcenia w medycynie ratunkowej, a jedynie uporządkowanie programów nauczania jest gwarancją utrzymania jego jakości wobec rosnących wymagań międzynarodowych.