

The profession of a paramedic as a new specialty in the health care system - a prospective assessment of social awareness.



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INTRODUCTION: The first fundamental law regarding the system of State Emergency Medical Services in Poland was passed in 2006. The basic scope of activities performed by paramedics, their rights and obligations as well as the functioning and financing of the system were determined at that time. The aim of the work is an attempt to assess the level of social awareness in the field of qualifications and entitlements of paramedics, as well as to determine the role of this profession in the rescue system in Poland.

MATERIAL AND METHODS: The study uses a authorial questionnaire made available via the Internet, which was directed to random people. The form consisted of ten questions assessing knowledge and the opinion of the respondents regarding the profession of paramedic. To the statistical analysis was used rho-Spearman and U Mann-Whitney tests. All results were considered significant at $p < 0.05$.

RESULTS: The study was attended by 296 people, and the average age was 29.13 (SD±9.08). The average of the test questions was 7.03 points (SD±1.85) on a scale from 0 to 9. The average level of professional qualifications of paramedics was amounted to 7.03 points (SD±1.85) on a scale from 1 to 10. Respondents showed the greatest knowledge in the scope of prescribers' prescription (95%, n=280), education (89%, n=264) and qualifications of rescuers to receive delivery (88%, n=260). And the smallest in terms of resignation from resuscitation (50%, n=148), activities that exceed the qualifications of paramedics (55%, n=162) and the right to perform selected procedures (76%, n=224). People who were patients of paramedics rated their competence higher than those who did not declare that experience (Me=7,83 SD±1,91 vs. Me=8,54 SD±1,5; rho-Spearman: 0,18 ; p=0,002).

CONCLUSIONS: The study indicates that paramedics are highly evaluated in terms of their professional competences. In addition, people who in the past were patients of paramedics assess them higher than people who have not had contact with them before.

KEY WORDS: Paramedic, salvage service, emergency medical services, society assessment, professional qualifications

INTRODUCTION

Education in the profession of paramedic began in Poland in 1992. The first school in which the training of paramedics was taken, was Medical Vocational College PCK in Poznań. The education of students at the first-cycle level in the field of emergency medical services began in 2000. The first medical school that opened the studies in the field of emergency medical services was the Silesian Medical Academy.

It was only on September 8, 2006 that the law on State Emergency Medical Services (EMS) came into force defining the basic scope of activities performed by paramedics, as well as the functioning and financing of the entire EMS system [1]. The legislator for the first time in the history of Polish rescue indicated the rights and obligations of persons performing the profession of a paramedic. The training of paramedics who perform medical treatment in pre-hospital conditions dates back to the 1970s when the "Wedworth - Townsend Paramedic Act" signed by the Governor of California. Education of rescuer-firefighters was started at that time, who were obtained entitled to perform advanced advanced resuscitation procedures [2]. Several previous ambiguities were clarified, which appeared during the daily work of paramedics. The normative act defined the principles of making decisions on the withdrawal from medical rescue activities, as well as the issue of the use of direct coercion.

In later regulations, the requirements for persons undertaking the profession of paramedic are listed in detail, as well as a list of medical rescue activities (MRA) that rescuers can perform independently. At present, the representatives of this profession should be characterized by good physical prowess, because work on the front line of human life is demanding both mentally and physically. A good paramedic should demonstrate knowledge of a foreign language, as well as have completed university studies in the field of medical rescue. A draft National Medical Rescue Exam was also introduced, which will be carried out for the first time in 2020 [3].

The EMS system was created to provide proper pre-hospital medical care to people in the risk of their life or health. The profession of a paramedic should enjoy great social trust, but also people's awareness of the competences and qualifications of their representatives [4].

Contemporary access to the mass media, the Internet and social media facilitate the acquisition of information on medical knowledge. Paramedics work in an unfavorable environment, being constantly exposed to injuries, infections, acts of violence, psychological pressure and physical exhaustion [5]. Many of the harmful factors (eg. biological, chemical, psycho-social, ergonomic) affect the work of paramedics in the emergency medical team (EMT), but most of them independently decide to choose such a profession, express their willingness to learn, and self-improvement.

Independent work in EMT brings with it considerable responsibility for the implemented medical procedures. Lack of medical staff in the ambulance can not negatively affect the quality of services provided by paramedics. To this aim, the knowledge and skills of paramedics are constantly improved, which the legislator obliges. In order to maintain the status of a paramedic, a person working in this profession must undertake professional development on their own. During five-year periods, he must obtain at least 200 educational points by participating in conferences, writing scientific publications, e-learning trainings, or taking part in practical classes [6].

Despite the high level of training of paramedics in Poland, the treatments performed by them have their limitations. Patients, their families and witnesses of the incident are not always aware of this, which may lead to the use of EMT contrary to statutory assumptions. The aim of the study is an attempt to assess the level of public awareness of the competences and qualifications of paramedics and to define the role of this profession in the EMS system.

MATERIAL AND METHODS

The study was conducted from May to August 2017 using an anonymous online form. The research tool was the authorial questionnaire addressed to random people. The form consisted of 15 points. Five of them were sociodemographic questions, the next nine concerned the main subject of the study, while the last included assessing the qualifications of paramedics in Poland with using a scale from 1 to 10.

To the statistical analysis results due to the lack of normal distribution, a nonparametric tests was used - rho-Spearman and U Mann-Whitney test. All results were considered significant at $p < 0.05$.

RESULTS

The study was attended by 296 people, including 148 men, 147 women, and one respondent did not specify gender. The average age of the respondents was 29.13 (SD \pm 9.0). The majority of respondents (n=132) live in the Mazowieckie Voivodeship and declare higher education (n=186). More than half of the respondents (n=175) had contact with paramedics in a hospital emergency department, a emergency medical team or other circumstances.

The average of the results of the nine test questions determining the knowledge of the privilege and occupational qualifications of medical rescuers amounted to 7.03 points (SD \pm 1.85) on a scale from 0 to 9. The respondents also subjectively assessed the level of professional qualifications of medical rescuers on a scale of 1 to 10. The average was 8.25 (SD \pm 1.71). A detailed overview is shown in Figure 1.

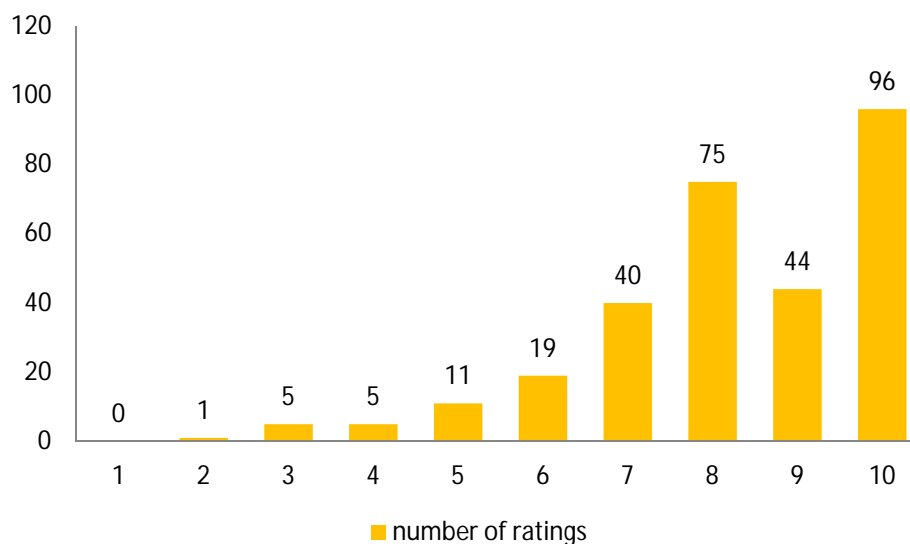


Figure 1. Assessment of the level of professional qualifications of paramedics

The study group showed the greatest knowledge in the scope of prescription (95%, n=280), education (89%, n=264) and qualifications of rescuers to receive delivery (88%, n=260). The majority of problems for the respondents were questions about resignation from resuscitation (50%, n=148), activities beyond the qualifications of paramedics (55%, n=162) and the right to perform selected procedures (76%, n=224). Detailed results are shown in Table 1.

Table 1. Knowledge of the qualifications of medical rescuers

Question	Answers (%)
1) Where can a paramedic work?	
a) in the Air Ambulance Service only	n=44 (14,9%)
b) in the State Fire Service only	n=4 (1,4%)
c) in the Intensive Care Unit only	n=9 (3%)
d) in all of the above	n=239 (80,7%)
2) What education paramedic have?	
a) Certified professional course	n=16 (5,4%)
b) Two-year medical study	n=13 (4,4%)
c) Three-year studies in the field of emergency medical services	n=264 (89,2%)
d) High school with a medical emergency profile	n=3 (1%)
3) Can a paramedic be the leader of emergency medical service?	
a) YES, in the "P" type ambulance	n=247 (83,4%)
b) YES, in the "S" type ambulance	n=14 (4,7%)
c) NO, because he works only under supervision doctor	n=34 (11,5%)
d) NO, because he works only under supervision nurse	n=0 (0%)
4) Can a paramedic terminate cardiopulmonary resuscitation?	
a) YES, filling in the death chart	n=11 (3,7%)
b) YES, by completing the medical emergency card	n=148 (50%)
c) YES, he is obliged to take the body to the funeral parlor	n=3 (1%)
d) NO, this decision can only be taken by a doctor	n=134 (45,3%)
5) Can a paramedic write prescriptions for medication?	
a) YES, only for painkillers	n=13 (4,4%)
b) YES, only for antibiotics	n=0 (0%)
c) YES, for all drugs including psychotropic	n=3 (1%)
d) NO, can not prescribe medication	n=280 (94,6%)
6) Can a paramedic self-administer birth?	
a) NO, only a doctor can accept delivery	n=3 (1%)
b) NO, only midwife / obstetrician can accept delivery	n=5 (1,7%)
c) YES, he can give birth himself	n=260 (87,8%)
d) YES, provided that it has the appropriate specialization	n=28 (9,5%)
7) Which of the following can be done by a paramedic alone?	
a) Endotracheal intubation in the situation of cardiac arrest	n=56 (18,9%)
b) 12-lead ECG with its interpretation	n=12 (4,1%)
c) The supply of medication via intramedullary route	n=4 (1,4%)
d) All of the above	n=224 (75,7%)
8) Which activities a medical rescuer CAN NOT do himself?	
a) Manual defibrillation	n=13 (4,4%)
b) Medical segregation in a mass accident	n=27 (9,1%)
c) Gastric lavage	n=162 (54,7%)
d) Assumption of access to the external jugular vein	n=94 (31,8%)
9) Can a paramedic apply the binding patient?	
a) YES, at the police's request	n=15 (5,1%)
b) YES if the patient is threatening his / her life or others	n=257 (86,8%)
c) NO, this decision must be taken by a psychiatrist	n=8 (2,7%)
d) NO, this decision must be taken by the court	n=16 (5,4%)

The variable level of knowledge did not show normal distribution (Kolmogorov - Smirnov test = 3.25; $p=0.000$), therefore nonparametric tests were used. A correlation was found between the assessment of professional competences and the experience of providing assistance by paramedics (rho-Spearman: 0,18; $p=0,002$). People who were patients of paramedics rated their competence higher than those who did not declare such experience (Me=7,83 SD \pm 1,91 vs. Me=8,54 SD \pm 1,5). The difference between the groups was assessed with using the U Mann-Whitney test, getting a significant statistical difference ($p=0.002$), as shown in Figure 2.

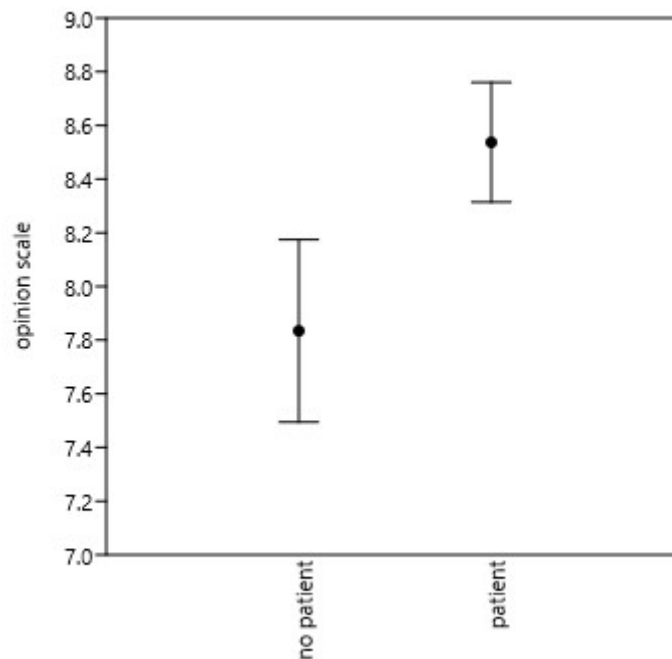


Figure 2. Correlations of the assessment of paramedics (95% interval)

DISCUSSION

There are many television programs that present the work of emergency medical services and paramedics. Unfortunately, the lack of reliable mapping of real MRA procedures may cause that viewers draw erroneous conclusions. A fictitious image may be reflected in their behavior when they have contact with a medical emergency team.

The emergency medical services enjoys high trust of the public [7, 8], however people because of their ignorance, misjudge the situation and often make it difficult for their medical staff to work [9]. In spite of this, many paramedics work in this profession with a pure desire to help another man and with passion. Emergency medical services in Poland are of a high standard, and people working in it are increasingly better specialists in this field [10]. They are obliged to self-education, thanks to which they can constantly learn current standards of conduct and improve their skills [11, 12].

A most of the respondents did not have contact with rescuers so far, but nevertheless, a relatively high level of knowledge in the field of competence and professional qualifications of paramedics has been demonstrated (7,03 pts.; $SD \pm 1,85$). Attention is drawn to the fact that the assessment of paramedics by persons who were in the past their patients was significantly higher than by people who did not have health services provided by rescuers. Medical rescuers were rated equally high on the 1-10 scale, reaching an average of 8.25 points. ($SD \pm 1.71$). The obtained results indicate the profession of a paramedic as the one who can enjoy high social confidence [13].

The study showed several significant gaps in knowledge among the public, mainly regarding the rescuers' right to resign from resuscitation and several other advanced medical procedures. Therefore, the specificity of the rescuer's work should be constantly brought closer to the society, because greater awareness of people can improve cooperation with EMT at the time when life or health was threatened.

CONCLUSIONS

The research shows that the respondents are mostly satisfied with the work carried out by paramedics. Most respondents assessed the competence of paramedics as very good, which may indicate a high level of training of rescuers in Poland. People who in the past were patients of paramedics, assess the level of their competence higher, than people who have not had contact with them before. It is important to dissemination of knowledge on the qualifications of emergency medical personnel, especially in the field of resuscitation and advanced medical procedures.

Disclosure statement

No potential conflict of interest was reported by the author's.

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