

## The importance of e-learning in professional improvement of emergency nurses



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**INTRODUCTION:** Emergency nursing is a young specialization enabling to take up a job in the State Emergency Medical Services in Poland. The continuous improvement of emergency medicine requires improving the qualifications of medical personnel through the implementation of various forms of professional development. The study was conducted to assess the importance of modern forms of postgraduate education among emergency nurses.

**MATERIAL AND METHODS:** The study uses a authorial questionnaire addressed to 100 nurses and male nurses who are actively working in the emergency medical system in Poland. The parametric tests T-test and  $\chi^2$ , V-Cramer and One-way Anova were used for data analysis. All results were considered significant at  $p < 0.05$ .

**RESULTS:** The study group consisted of 77 women and 23 men, and the average age was 40,18 years. The majority (45%) work in a hospital emergency department or admission room, and 84% of respondents declare to have higher education. In the last five years, 24% of respondents did not participate in any development courses, and 50% took training only 1-2 times, indicating numerous difficulties. The respondents ( $n = 44$ ) indicated e-learning methods as the most attractive in professional improvement.

**CONCLUSIONS:** Professional development courses for emergency nurses are implemented sporadically. Online educational programs are a desirable form of continual learning. In order to improve the quality of postgraduate education in emergency nursing, further work towards the improvement of e-learning courses is recommended.

**KEY WORDS:** Nursing, emergency medical services, e-learning, professional improvement

## INTRODUCTION

For many years, emergency medicine is a very dynamically developing field among other medical specialties. The face of the present world, the increase in the number of accidents, disasters, fires, and terrorist attacks determines the need to ensure public safety and high quality interventions related to saving human health and life. However, not only the financial and logistic background is the improvement of emergency medicine. The basis is well-qualified staff. The effectiveness of the actions taken depends on the knowledge, skills and experience of people.

Nursing is a profession with a very long and rich history. The first mentions of the nurses' activity have already been recorded in Hindu works, in which mention is made of the education of people dealing with the care of the sick. The history of nursing illustrates the development of education methods, closely related to the improvement of medicine as a science, which predisposed nurses to expanding knowledge and acquiring new skills, not only on the basis of their own professional experience, but also formal requirements [1, 2].

Emergency medicine is a specialization that not only develops very dynamically, but also covers all other specialties. Emergency medicine has undergone a spectacular transformation in terms of nursing staff in last years. The development of emergency nursing followed, including thanks to specializations and qualification courses [3].

The flourishing of emergency nursing improves the functioning in the field of the emergency medical service in Poland, but it requires the support of nurses on many levels and changes in approach to education, which is why one can not to skip the continuing education of nurses and male nurses in the field of emergency nursing. The role of emergency nursing is extremely important in achieving the goals that have been set before the emergency medicine and the system of State Medical Rescue in Poland. The Act of 8 September 2006 on State Emergency Medical Services (Dz.U. 2006 nr 191 poz. 1410) changed the organization of the rescue system. She also set new challenges for nurses, obliging them to improve their qualifications and the quality of services provided.

The lawmaker predicted four types of postgraduate education for nurses and midwives [4]. These are: specialist training (14 fields), qualification courses (21 fields), specialist courses (31 fields) and training courses. In the education of nurses, as in other academic fields, e-learning is an increasingly common form of continual learning. Many public and non-public institutions implement distance learning as a method of deepening knowledge and checking the skills achieved by people using this form of education. A popular form are educational platforms created by universities and dedicated to students. They contain content developed by lecturers, as well as tests to check the degree to acquire and master knowledge.

E-learning platforms are a means of access for nurses and male nurses for free postgraduate education, complementing education or as an alternative to traditional education. The form of online education constituting an element of the "distance learning" system expands the group of people who gain knowledge at a distance. E-learning platforms are often used as part of a mixed mode, so-called "blended learning" [5]. Then knowledge is transferred remotely, and skills are verified with the direct participation of the teacher. For this purpose are used specially prepared didactic materials, multimedia exercises, films. The goal is effective and comfortable learning as well as immediate verification of the knowledge gained by the student. An important issue is the visual form of the e-learning platform and content offered [6]. The contents of the content can be freely modified by the administrator, even during the course. The training offer for the nursing staff may be adapted to the current needs reported by nurses and male nurses. Didactic material can take any form of multimedia, which technology allows, for example: text, graphics, images, test questions or interactive exercises.

Online educational programs are easily available and personalized, which is why they are gratified recognition in the medical environment [7]. Creating educational paths allows healthcare professionals to choose a field that is in their area of interest. The aim of the study was to analyze contemporary forms of professional improvement of emergency nurses and to indicate the needs of future education for this environment.

## MATERIAL AND METHODS

The study was conducted from 1 September 2017 to 30 November 2017 with using the online form, among 100 nurses and male nurses working actively in the State Emergency Medical Services System. The research tool was the authorial questionnaire addressed to people working in the State Medical Rescue System. The form contained 23 points, covering sociodemographic issues and the main subject of the study.

To analyze the statistical results was used the parametric test - parametric test  $\chi^2$ , V-Cramer and One-way Anova. All results were considered significant at  $p < 0.05$ . IBM SPSS Statistic v. 23 was applied.

## RESULTS

### Research participants

In the analyzed research group there were one hundred nurses and male nurses of the EMS system. The majority of respondents were women 77% ( $n=77$ ). Men, on the other hand, constituted 23% ( $n = 23$ ) of the studied group. In terms of age, the largest group 45% ( $n = 45$ ) were respondents aged 41-50 years. The average age of respondents was 40,18 years. Almost half of respondents 45% ( $n = 45$ ) work in a hospital emergency department (ED) or admission room (AR). Every fourth respondent - 26% ( $n = 26$ ), works in a medical emergency team, and 19% ( $n = 19$ ) in an ambulance dispatch center or emergency call center (ECC). The remaining 10% of people indicated a different place of employment.

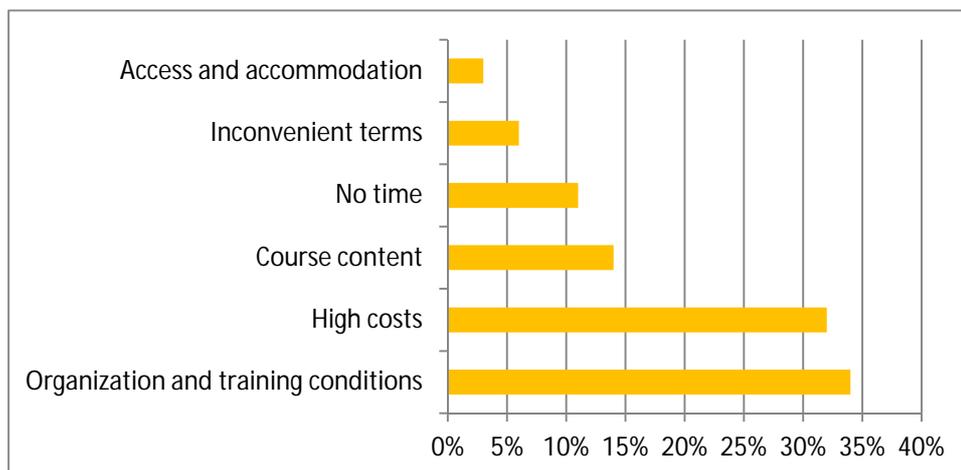
In terms of seniority in the nurses profession, the largest number of respondents, as many as 34% ( $n = 34$ ) work in the profession for 20 to 30 years. Whereas 29% ( $n = 29$ ) have a tenure in the profession from 10 to 20 years. A significantly smaller number of respondents 15% ( $n = 15$ ) indicated a work period of 5 to 10 years. The shortest working time in the profession, calculated up to 5 years of employment, was declared by 10% ( $n = 10$ ) of the examined nurses and male nurses. The vast majority of respondents 60% ( $n = 60$ ) have completed a first-degree professional nursing studies (bachelor). In second place is the group

with completed II degree nursing studies (master's) - 26% (n = 26). A slightly smaller group of 13% (n = 13) are people with completed medical high school. Only one person had completed a Medical Vocational School.

### Implementation of professional development

The vast majority (84%) of people participating in the study are aware of the impact of postgraduate education on the quality of the profession. Half of the respondents (50%) in the last five years participated in postgraduate education only 1-2 times. From 3 to 4 forms of professional development were declared by 16% of respondents, and five or more forms were indicated by 10% of respondents. The remaining respondents (24%) did not undertake professional development in the last five years.

The majority of nurses and male nurses (54%) financed past continual learning only from their own resources. Coverage the costs of professional development from European Union funds is declared by 22% of respondents. Also pointed to other difficulties in the implementation of professional development, as shown in Figure 1. Analysis of the availability of the thematic scope of forms professional improvement for emergency nurses has shown that the majority (57%) of people assess it at a sufficient level. Did not have the opinion the 23% of respondents, and the remaining group (20%) considered the accessibility of thematic trainings insufficient.



**Figure 1.** Difficulties in implementing postgraduate education

The motivation for participation in courses and development trainings was usually self-initiative (44%). As a source of motivation in the opinion 37% of the respondents indicated the requirements of the employer, and 10% of the respondents indicated the possibility of gaining new employment. The least often, because in the opinion of only 9% of respondents, the incentive was the bonus from employer (promotion, getting a new position, salary rise). Assessment of difficulties in implementing postgraduate education revealed that the biggest obstacle for respondents is the organization and learning conditions incompatible with the needs and / or expectations of the participant (34% of respondents). The question about the possibility of obtaining support from the employer revealed that 64% of respondents think that they can not count on the support of the employer.

### Professional development plans

The respondents indicated forms of professional development which they would be happy to use in the near future. The most frequently provided answer (44%) was participation in the online educational program (e-learning). In second place, due to popularity, was find participation in a congress, conference, convention or scientific symposium (35%). The lowest popularity among the studied group is such a form of professional development as a paper, communication or scientific poster (21%). A connection was recognized between the interest of those surveyed in this form of professional development and the possession of specialist or qualifying courses ( $\chi^2$ : 4,273  $p=0,031$ ; V Cramera: 0,207  $p=0,039$ ; ANOVA: F-value 4,375;  $p=0,039$ ). The comparison was shown in Table 1.

**Table 1.** Difficulties in implementing postgraduate education

		Having specialized or qualifying courses [n]	
		yes	no
Declared participation in forms of professional development	Participation in the online educational program (e-learning)	24	20
	Other forms	19	37
Amount		43	57

## DISCUSSION

Along with the amendment to the Act on State Emergency Medical Services, emergency nurses have gained greater professional competence, which resulted in increased responsibility for the performed treatments. Extending the scope of nurses' medical activities requires constant rise of qualifications and professional development. This, unfortunately, does not translate into an increase in salary and state a low percent motivating for self-education [8].

The increase in the average age of professionally active nurses is also evident in postgraduate education [9]. This was evidenced by the results obtained, showing that 34% of respondents work over 20 years in the profession. The funds from the European Union, which were used by 22% of respondents, constitute a big financial support for people who are educating postgraduate. At the same time, difficulties in the implementation of postgraduate professional development are indicated, such as: organization and learning conditions that do not meet expectations, and the subject matter of education extending far beyond interests and inconsistent with the direction of education.

While creating a new system of postgraduate education for nurses, personnel working in the medical rescue system were also taken into consideration. Emergency nursing is a difficult field that requires action in extraordinary environmental and civilization threats, in life-threatening situations, as well as mass occurrences. The creating education programs of system nurses should take into account the anticipation of what will or may be needed in the future [10]. The contemporary world and its threats enforce further progress in emergency nursing, the need for continuous verification of education programs and professional development in the field of qualified first aid and medical rescue proceedings that are undertaken by a nurse at the accident site or a hospital emergency department.

There are few studies in the literature referring to raising the professional qualifications of emergency nurses, which would help to indicate their motives in making decisions about postgraduate education [11]. In the present paper attempts to answer the question whether postgraduate education affects the quality of performed tasks, as well as what motivates the desire to raise qualifications. Persons who participating in the survey were aware of the impact of postgraduate education on the quality of

practicing the profession (84%), and almost half indicated their own initiative as a source of motivation for continual learning.

The most popular form of postgraduate education among people participating in the study was e-learning, because as many as 44% of respondents declare their willingness to continue education through online training. The rationale is the ease of access to such programs, low costs of education and the possibility of adapting free time to the dates of courses. Technological innovations are indicated in the works of other authors as an inseparable element of effective improvement in the field of professional nursing services [12]. At the same time, the survey carried out showed a statistically significant connection between people with specialization courses or qualification courses and the interest in raising qualifications through online courses ( $\chi^2=4,273$ ;  $p=0,031$ ). The observed accuracy can be explained by the detection by trained persons of the potential benefits of education in the form of e-learning. The form of online professional development also eliminates most of the difficulties in implementing continual learning indicated by the respondents. It is possible to consider the implementation of national internet education programs in both undergraduate education and formal training courses [13].

## CONCLUSIONS

Professional improvement of emergency nurses is pursued sporadically despite the rapid development of emergency medicine and the growing demands towards medical staff. The respondents point to the lack of sufficient motivation on the part of employers, as well as specific difficulties in the realization of continual learning. Internet educational programs are the most desirable form of postgraduate education among emergency nurses, therefore we should strive to improve e-learning methods.

### Disclosure statement

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

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