

PARAMEDICS' EDUCATIONAL NEEDS REGARDING CULTURAL COMPETENCE: CROSS-SECTIONAL STUDY OF SELECTED TWO REGIONS OF POLAND

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Abstract

INTRODUCTION: Approximately 743 700 foreigners reside permanently in Poland, and 180.2 million visit Poland every year. Paramedics should be prepared to assist foreigners whose expectations and needs related to their culture may be different than those typical of Poles. Education on cultural competence should therefore be a part of both undergraduate education and professional development. The aim of the study was to assess the educational needs of paramedics working in the National Medical Emergency System in terms of cultural competence.

MATERIAL AND METHODS: The study group consisted of all paramedics working in National Medical Emergency System in the Subcarpathian and West Pomeranian provinces. Responses were obtained from 563 out of the total of 2229 participants invited to participate in the study. The questionnaire used to study the educational needs of paramedics was created by a team of executors of the international project Multicultural Care in European Intensive Care Units (MICE-ICU) and adapted to study paramedics.

RESULTS: Paramedics from the Subcarpathian province ($M = 3.56$; $SD = 0.67$) reported greater educational needs in terms of cultural competence than their colleagues from the West Pomeranian province ($M = 2.84$; $SD = 0.82$, $p < 0.001$). In the Subcarpathian province, 80.4% of paramedics declared willingness to improve their knowledge of foreign languages, while in the West Pomeranian province this number amounted to 45.9%. In both provinces, paramedics with MSc in another field of study and BSc in emergency medical services reported greater educational needs compared to paramedics with lower education. In the Subcarpathian province, the preferred form of education was a conference (60.8% of respondents), while in the West Pomeranian province the respondents opted for workshops with experts representing various ethnic and religious groups (39.4%). The percentage of paramedics interested in online courses on multicultural emergency medicine was 41.74%.

CONCLUSIONS: The study demonstrated that paramedics from provinces located on opposite ends of the country who had contact with different groups of foreigners have great educational needs in the field of cultural competence and education in this area should be a constant part of professional development. Conferences and workshops are the preferred form of education.

KEY WORDS: educational needs, cultural competence, paramedics, emergency medical service

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INTRODUCTION

The number of foreigners permanently residing in Poland amounts to approximately 743.7 thousand. Every year 180.2 million foreigners cross the Polish border. The growing number of foreigners residing permanently and temporarily in Poland means that paramedics more and more often provide help to people with cultural values different from those most commonly encountered in Poland and different expectations towards medical staff. Insufficient cultural competence on the part of paramedics may cause patients of different cultural backgrounds to fear violation of their values, lack trust and avoid contact with the health care service, be aggressive, and take legal action. On the part of the staff, however, it causes difficulties in providing adequate assistance, stress and violation of the patient's rights [1–4].

Paramedics are required to update their knowledge and practical skills in a five-year settlement period by participating in various forms of professional development. Postgraduate education should broaden and update the knowledge and skills necessary to carry out the tasks of a paramedic. Training topics may also include issues related to multiculturalism and the development of the cultural competence among paramedics [5].

Education in the field of cultural competence, defined as acquiring the ability to help patients of a different cultural background, is currently included in the curriculum of emergency medicine field of study [6]. Paramedics with such preparation graduated from higher education. Paramedics with secondary education also work in the medical rescue system. The curriculum of paramedics who graduated from post-secondary school did not include the subject "Multiculturalism in medical rescue" [7, 8]. Cultural competence is among the social skills that enable proper communication with the patient, enhance trust and sensitivity to the patients' expectations and needs. Therefore, it should be constantly broadened as a part of the professional development of paramedics [4, 9]. Fulfilling the obligation of paramedic's professional development by collecting educational points is not a sufficient form of lifelong learning. Efforts should be made to improve this process and standardize the education system and create the possibility of supplementary education. Continuing education will allow paramedics to validate and update their skills [10].

The review of the Polish literature did not bring any publications on the educational needs of par-

amedics in terms of cultural competence. The aim of the study was to obtain information on whether professionally active paramedics require training in the field of cultural competence and what forms of education on multiculturalism they consider most useful.

MATERIAL AND METHODS

Study design and setting

The study was conducted from January 2018 to August 2018. The study population included 2229 paramedics. The paramedics were employed in the units of the National Medical Emergency System. These include the emergency response team (ERT) and hospital emergency departments (HED). Paramedics employed in the National Medical Emergency System were at the same time registered in the Safety and Emergency Management Department of Rzeszów and Szczecin Provincial Offices [11]. The list of paramedics was obtained on the basis of data contained in the National Medical Emergency System Action Plan for both provinces [12, 13].

The analysis included two provinces located on two opposite sides of Poland. One is adjacent to Germany, the other one to Ukraine. These nationalities are perceived by Poles as those with whom Poles most willingly cooperate. At the same time, the willingness to help is the strongest towards Ukrainians. In both provinces, the number of people of the Roman Catholic denomination is by far the most numerous. Significant differences can be expected in the paramedics' experience and educational needs regarding the cultural competence from these provinces.

The invitation to participate in the study was sent to all the National Medical Emergency System in both provinces. The respondents constitute 25% of the surveyed population, being a representative group. As such, we adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement (*Supplementary materials 1*) [14]. The study was approved by the Bioethics Committee of the University of Rzeszów – the resolution no 2017/12/7.

Methods of measurements

Studying the paramedics' educational needs was a part of the research project *Assessment of cultural competence of paramedics working in the emer-*

gency medical system. To study the paramedics' educational needs, the questionnaire assessing the cultural competence of medical staff was used created by a team of implementers of the international project Multicultural Care in Intensive Care Units in Europe (MICE-ICU). After obtaining the consent of the authors, it was adapted to study paramedics. The questionnaire is used to assess competence but also includes questions related to educational needs. There are 12 questions to assess educational needs. The first question tests the paramedics' own belief that they are prepared to provide effective help to patients from different cultures. The next two questions concern own assessment of the need to expand one's knowledge and skills in the field of multiculturalism, and the next three items indicate which form of education is the most preferred. The questionnaire also includes a question about the development of foreign language skills. In the next 7 questions, the respondents are asked about their attitude to broadening knowledge about various ethnic and religious groups, about communication and conflict resolution skills, and about undertaking resuscitation in patients representing a different culture. The questions are formulated as learning statements and the answers are provided on a five-point scale from "strongly disagree" to "strongly agree".

The participation of paramedics in the study consisted of completing an online questionnaire, available on the Internet platform <https://ap.admin-project.eu/>.

Inclusion criteria

The group of people invited to participate in the study included all paramedics working in the National Medical Emergency System in the Subcarpathian

and West Pomeranian provinces for at least 1 year. The location of the above-mentioned provinces on the map of Poland with neighboring countries is presented in *Supplementary materials 2*.

Data analysis

The obtained data was collected by the interviewing system and processed in spreadsheets (Excel). The collected research material was statistically developed using a statistical package IBM SPSS Statistics (v. 25).

RESULTS

Characteristics of study subjects

The questionnaire was completed by a total of 563 male and female paramedics. In the Subcarpathian province, it was filled by 347 paramedics. In the West Pomeranian province, 216 paramedics completed all the questions contained in the survey.

The mean age of the respondents was 36.66 years (SD = 9.50) and the average work seniority was 11.28 years (SD = 7.71). Men accounted for 86.7% of the respondents. 49.9% of the respondents had a Secondary School Diploma as a paramedic (lack of the subject "Multiculturalism in medical rescue" in the curriculum). The rest of them completed a BSc in Emergency Medical Services. The characteristics of the studied population are presented in Tables 1 and 2.

Main results

In the entire study group, 305 respondents expressed their interest in broadening their knowledge of multiculturalism (56% of the answers — strongly agree and rather agree). The willingness to improve

Table 1. Age and seniority of the respondents

	n	M (SD)	Min	Max	Q1	Me	Q3
AGE							
Subcarpathian province	347	37.84 (9.46)	20.00	61.00	30.00	36.00	45.00
West Pomeranian province	216	34.77 (9.28)	22.00	61.00	28.00	33.00	40.00
Total	563	36.66 (9.50)	20.00	61.00	29.00	35.00	43.00
WORK SENIORITY							
Subcarpathian province	347	11.98 (7.62)	1.00	38.00	6.00	10.00	15.00
West Pomeranian province	216	10.15 (7.74)	1.00	35.00	4.00	8.00	15.00
Total	563	11.28 (7.71)	1.00	38.00	5.00	10.00	15.00

M — mean; Me — median; SD — standard deviation; Q1 — first quartile; Q3 — third quartile

Table 2. Characteristics of the Study Population

	Subcarpathian province		West Pomeranian province		Total	
	n	%	n	%	n	%
Sex						
Woman	46	13.3	29	13.4	75	13.3
Man	301	86.7	187	86.6	488	86.7
Total	347	100.0	216	100.0	563	100.0
The level of education						
Secondary School Diploma of a paramedic	181	52.2	100	46.3	281	49.9
BSc of Public Health with a specialization in emergency medical services	37	10.7	53	24.5	90	16.0
BSc of emergency medical services	83	23.9	39	18.1	122	21.7
MSc in the other field of study and BSc of emergency medical services	19	5.5	6	2.8	25	4.4
MSc in Public Health and BSc of emergency medical services	27	7.8	18	8.3	45	8.0
Total	347	100.0	216	100.0	563	100.0

their practical skills in this field was expressed by 301 people (55%). The preferred forms of training were conferences (52%) and workshops with experts in multiculturalism (55%). The interest in online courses was slightly lower (44%).

The need to improve the skills in foreign languages was expressed by 71% of the surveyed paramedics (strongly agree or rather agree). This need was most frequently reported in the study. The socio-cultural characteristics of various ethnic and religious groups enjoyed the least interest (item 57) with 41% of the respondents willing to improve it. Significant differences between the paramedics from Subcarpathian and West Pomeranian provinces concerned items from 51 to 55 marked (*) in Table 1. The paramedics from Subcarpathian province were more interested in developing foreign language skills than those from West Pomeranian province ($M = 4.08$; $SD = 0.96$ vs $M = 3.31$; $SD = 1.26$; $p < 0.001$) and expanding knowledge in the field of multiculturalism ($M = 3.73$; $SD = 1.02$ vs $M = 3.10$; $SD = 1.18$, $p < 0.001$). Paramedics from West Pomeranian province demonstrated lower educational needs in all responses compared to paramedics from Subcarpathian province ($M = 2.84$; $SD = 0.82$ vs $M = 3.56$; $SD = 0.67$, $p < 0.001$) (Tab. 3).

The analysis of the relationship between educational needs and education, age, and place of work showed that in the West Pomeranian province, paramedics with an "MSc in the other field of study and BSc of emergency medical services" had higher educational needs than paramedics with lower edu-

cation. There was no such correlation was found in the Subcarpathian province. In the Subcarpathian province, the educational needs of paramedics increased with age. This correlation did not exist in the West Pomeranian. Work in the HED and the ERT was associated with higher education needs than among paramedics working in the West Pomeranian. The results of the analysis of the correlation of these factors with educational needs are presented in Tab. 4. The remaining analyzed features (including knowledge of foreign languages) did not show statistically significant differences.

DISCUSSION

Comparing the populations of foreigners (including unregistered immigrants) in the Subcarpathian and the West Pomeranian province, it can be noticed that they are different. In the Central Statistical Office report: "Foreigners in the domestic labor market by region", citizenship is considered. In individual provinces, 4 groups of foreigners are distinguished: Ukrainians, Belarusians, "others" (i.e. Vietnamese, Indians), and "EU countries". The report shows that the largest number of citizens from Ukraine and "others" live and work in the Subcarpathian province. In turn, the West Pomeranian province has the highest number of foreigners from EU countries and Ukrainians. Foreigners most often stay in large cities and Szczecin (2.5% of all foreigners) is one of them. Few foreigners reside in the subregions, which include i.e. the Krosno subregion, located in

Table 3. Results of the assessment of paramedics' educational needs concerning cultural competence

ITEM	I strongly agree				
	I rather agree				
	I have no opinion				
	I rather disagree				
	I strongly disagree				
51*. I am interested in expanding my knowledge in the field of multiculturalism (n = 541)	19%	37%	24%	14%	6%
52*. I am interested in developing my practical skills in the field of multiculturalism (n = 546)	13%	42%	23%	15%	7%
53*. A conference with lectures by experts in the field of multicultural life saving of patients in a state of health and life emergency is a form of education that interests me (n = 532)	17%	35%	27%	13%	8%
54*. Workshops with experts representing various ethnic and religious groups are a form of education on multicultural life saving of patients in a state of health and life emergency, which interests me (n = 525)	17%	38%	27%	12%	7%
55*. An online course is a form of education on multicultural life saving of patients in a state of health and life emergency, which interests me (n = 532)	14%	30%	32%	17%	8%
56*. As a paramedic, I should improve my skills in foreign languages (n = 539)	31%	40%	15%	9%	6%
57. As a paramedic, I should know more about the socio-cultural characteristics of different ethnic and religious groups (n = 518)	8%	33%	36%	17%	6%
58. As a paramedic, I should know more about the risks to health and life in different ethnic groups (n = 543)	12%	46%	23%	12%	7%
59. As a paramedic, I should know more about the socio-cultural aspects when undertaking CPR (n = 533)	14%	41%	23%	16%	8%
60. As a paramedic, I should know more about the eating habits of different ethnic and religious groups (n = 523)	10%	39%	31%	12%	8%
61. As a paramedic, I should know more about treatment procedures for patients from different ethnic and religious groups (n = 543)	8%	37%	27%	19%	8%
62. As a paramedic, I should know more about verbal and non-verbal patterns of communication with patients from different cultural groups (n = 546)	11%	41%	24%	18%	6%
63. As a paramedic, I should know more about the methods of solving conflicts occurring during the work of a paramedic, which is based on cultural differences (n = 543)	12%	41%	27%	15%	6%

* Marking significant differences in the educational needs of paramedics from the Subcarpathian and the West Pomeranian provinces

the Subcarpathian province (0.2% of all foreigners). The number of foreigners in both provinces differs significantly. It is estimated at 8289 people in the

Subcarpathian while in the West Pomeranian province there are almost three times as many people — 23 316 [10, 15].

Table 4. Relationship of education, age, and place of work with educational needs

	The Subcarpathian province (n = 347)		The West Pomeranian province (n = 216)		Total (n = 563)	
	H	p	H	p	H	p
Education (M = 3.63, SD = 0.77 vs M = 3.03, SD = 0.80)	2.529	0.470	10.245	0.017	20.049	< 0.001
Age (M = 3.55, SD = 0.17 vs M = 3.01, SD = 0.26)	0.212	< 0.001	0.041	0.564	0.189	< 0.001
Place of work (M = 3.10, SD = 0.84 vs M = 3.52, SD = 0.72)	-0.275	0.783	-2.944	0.003	2.467	0.291

M — mean; SD — standard deviation

Paramedics with varying degrees of education work currently in the national medical emergency system. Paramedics with higher education had a subject in the field of multiculturalism during their studies. On the other hand, paramedics with secondary education did not have developed cultural competence in their undergraduate education. They constitute 49.9% of all surveyed paramedics. The studies of nurses and doctors working with patients of different cultural backgrounds indicate a need for medical staff training in the field of cultural competence. Majda et al. published a study on nurses' attitudes towards patients of Islamic denomination. The conclusions indicate that cultural competence and cultural intelligence should be improved within the framework of intercultural pre- and post-graduate education. This will reduce stereotypes, eliminate prejudices, as well as change negative attitudes towards patients of different cultural backgrounds [16]. Dobrowolska et al. [17] conducted research that shows that prior multicultural nursing education is significantly correlated with higher scores on cultural competence.

There are very few publications studying education and development of interpersonal skills in paramedic students compared to nursing students which were confirmed by a literature review by Ross. She also pointed out that the assessment of humanities skills is much more difficult than the assessment of clinical skills. Assessment tools in conjunction with students' self-esteem are an accurate and relevant way of testing humanities skills. It has also been shown that interpersonal skills are paramount to the ability of paramedics and nurses to operate in diverse, challenging environments as well as in highly emotional situations. The research shows that there was a deficit in the area of interpersonal relations with patients, colleagues, and superiors among paramedic graduates. Much greater emphasis is re-

quired on teaching complex interpersonal skills at the university level [18].

The study of educational needs of paramedics working in the National Medical Emergency System is the first such a large study in this field conducted in Poland. The study also provided information on the age, work experience, education, and foreign language skills of paramedics in the Subcarpathian and the West Pomeranian provinces. Rębak et al. [19] conducted a study of 336 professionally active paramedics working in Poland. The respondents worked in ERT. The needs and the applicable forms of continuous education for paramedics were assessed. The results of the study indicate that, in the opinion of paramedics, there is a need to improve their professional qualifications. The paramedics do not accept the current form of professional development, assessed by obtaining 200 educational points. The results also show that paramedics' self-development is not a sufficient form of training to ensure a high standard in providing help. Improving the process of postgraduate education should consist in standardizing the education system and creating opportunities for supplementary education. This will allow paramedics to validate and update their skills. The surveyed paramedics from both provinces report great interest in developing their practical skills in the field of multiculturalism. As in the study by Rębak et al. paramedics are interested in the practical form of training. In lifelong learning, paramedics were most interested in participating in a training course that ended with an exam, hands-on training, and a seminar.

Irish paramedics also find scenario-based hands-on training most appropriate for their profession. E-learning programs were considered irrelevant. However, they gain significance when they are supplemented with a practical module [20]. Similarly, the study of educational needs of paramedics indi-

cates that they are not interested in online courses as a form of education on multicultural lifesaving for patients in a state of health and life emergency.

The studies on educational needs in working with refugees were conducted by Bapolisi et al. in the Mbarara District Hospital in Uganda in 2016. They also assessed the attitudes of postgraduate medical interns towards refugees in the host country. The results showed a positive attitude towards refugees. The mean score on the "Attitude" scale was 2.8 (SD = 1.7). All respondents had contact with refugees, and 89% (n = 72) reported the need for further training in the use of interpreters, support staff, and health behavior [21]. The results are similar to those obtained in our study and indicate that the need to develop cultural competence of paramedics is common. Research by the Helsinki Foundation for Human Rights shows that it is important to conduct social campaigns and educational activities aimed at the entire society, regardless of education. Their aim is to familiarize Poles with ethnic diversity. They should also shape patterns of behavior in contact with people of different cultural backgrounds, eliminate xenophobia and condemn acts of racism [22]. In their study, Kietzmann et al. indicate a relationship between the knowledge of the language used by both interviewees and the overall satisfaction with pre-hospital emergency care [23]. In our study, paramedics from both provinces who knew a foreign language had similar educational needs to people who did not know a foreign language. However, the interest in raising the level of knowledge of foreign languages is high, also among people declaring knowledge of the language. Improving foreign language skills should be a part of professional development. Jongen et al. indicate that training in cultural competence improves the knowledge, skills, attitudes, and beliefs of people participating in them [24]. Similarly, Lie et al. [25] in the conclusions of the literature review indicate that there are limited studies showing a positive relationship between training in cultural competence and better patient outcomes. The results of these studies confirm the purposefulness of training in cultural competence.

Limitations

The selection of respondents from among paramedics working in 2 provinces does not allow to generalize results to the entire population of paramedics in Poland. Additionally, large numbers of respondents in both provinces indicate that the study group is repre-

sentative of all paramedics from these provinces, but this cannot be accurately assessed as detailed information on all employed paramedics is not available.

CONCLUSIONS

Paramedics report a great demand for education in the field of cultural competence, mainly through workshops and conferences with experts representing various ethnic and religious groups. The desire to acquire knowledge and skills in cultural competence increases with age. Paramedics with an MSc in a different field of study and a BSc in Emergency Medical Services have greater educational needs than paramedics with lower education.

Conflict of interest

There are no conflicts of interest.

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