



Research article

European intensive care nurses' cultural competency: An international cross-sectional survey



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ARTICLE INFO

Article history:

Received 3 December 2019

Revised 8 April 2020

Accepted 9 May 2020

Keywords:

Critical care nurses
Cross-sectional survey
Cultural competency
Europe

ABSTRACT

Objectives: To determine the level of cultural competence of European critical care nurses.

Design: A multi-country survey performed in 2017 as a part of the European project Multicultural Care in European Intensive Care Units.

Method: Online survey of critical care nurses in 15 European countries (n = 591) using the Healthcare Provider Cultural Competence Instrument consisting of 49 items divided into five subscales: awareness and sensitivity, behaviour, patient-centred orientation, practice orientation and self-assessment. Descriptive and correlational analyses were performed.

Results: Critical care nurses scored highest for 'awareness and sensitivity' (M = 5.09, SD = 0.76), and lowest for 'patient-centred communication' (M = 3.26, SD = 0.94). Nurses from northern and southern Europe scored higher across all subsets of the cultural competence instrument (all subsets, p < 0.001) than nurses from central Europe. Speaking other languages significantly correlated with higher scores in all subscales (all > 0.05) except 'practice orientation'. Previous education on multicultural nursing significantly correlated with higher scores in all subscales (all > 0.01) except patient-centred communication; and visits to other countries was negatively correlated with all subscales (all, p > 0.001) except patient-centred communication.

Conclusion: Being exposed to cultural diversity in different ways, like living in a multicultural country, speaking a second language and visiting other countries may influence development of cultural competence. Therefore, programmes which facilitate multicultural clinical practice are strongly recommended in nursing education.

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Implications for clinical practice

- Culturally competent nurses can positively influence the quality of patient care and patients' outcomes.
- Caring in an ICU setting requires a high level of nursing cultural competence because of the complexity and vulnerability of the patients' condition, family involvement and their informational needs, and the character of nursing work.
- Mobility programs included in undergraduate and postgraduate education of nurses which facilitate practice in other cultural environments may help to develop cultural competence.

Introduction

In their 2017 report, the United Nations highlighted the increasing numbers of international migrants rising from 173 million in 2000, to 258 million in 2017. Sixty-seven percent of migrants live in just 20 countries; over 30% live in Europe and the United Kingdom is the country with the fifth largest residing migrants worldwide (United Nations, 2017). These worldwide changes in migration are subsequently increasing the need for cultural awareness in health care organisations and clinicians to respond to the cultural diversity of the populations they serve (Renzaho et al. 2013). Culturally sensitive and safe nursing care is important in any clinical setting, however, in the intensive care unit (ICU), it is more challenging than in others. Here, the complexity and vulnerability of the patient's condition, family involvement and the character of nursing work require a high level of nursing cultural competence (Benbenishty and Biswas 2015; de Beer and Chipps 2014; Halligan 2006; Northam et al. 2015). Acknowledging this aspect, the World Federation of Critical Care Nurses' (WFCCN) published a position paper on Culturally Sensitive Critical Care Nursing (WFCCN 2016). It highlighted five central principles on the right of patients to receive culturally sensitive care, the rights of nurses to have their cultural differences respected and that critical care nurses needed appropriate knowledge, skills and attributes to deliver culturally sensitive care.

To understand cultural competence, one must first understand the terms. Cultural awareness is often called the first step in the process of being culturally competent – being *aware* of different cultures (de Beer and Chipps 2014). Cultural sensitivity goes a step further to *understand* that people have different cultural roots (Betancourt et al. 2003). Finally, *possessing cultural knowledge and skills* includes many aspects needed to deliver culturally congruent nursing diagnosing and caring processes (Cruz et al. 2016). With regards cultural competence of nurses, different theoretical models and concepts have been proposed (Campinha-Bacote 2002; de Beer and Chipps 2014; Lin et al. 2015; Marzilli 2016; Vasiliou et al. 2013). For example, cultural awareness, sensitivity, knowledge and practice are included in a model developed by Papadopoulos, Tilki and Taylor (1998) and Campinha-Bacote (2002) built her model on five elements including cultural desire, awareness, knowledge, skills, and encounters. These elements are included in the three main domains of the concept of competence itself: cognitive, psychomotor and affective (Gallagher and Polanin 2015).

Negative consequences of lacking cultural competence in nurses' work may cause moral distress regarding family dynamics, barriers to health care access, frustration connected with challenges in communication and implicit bias (Berlinger and Berlinger 2017; Halligan 2006). Additionally, lack of cultural competence may impact planning of nursing care, lead to prejudice and discrimination, may cause misinterpretation of patients' needs and may result in incorrect diagnosis and treatment (Cicolini et al. 2015). On the other hand, culturally competent nurses can positively influence the quality of nursing care, patients' satisfaction and patients' outcomes (Halabi and de Beer 2018).

Cultural competence of nurses has been evaluated using a variety of research instruments (Casillas et al. 2014; Cruz et al. 2016; Gallagher and Polanin 2015; Lin et al. 2015; Marzilli 2016; Repo et al. 2017; Halabi and de Beer 2018; Vasiliou et al. 2013). Evaluation studies have been mostly conducted in groups of nursing students, faculty members and nurses working in diverse clinical fields. Relatively little research has been undertaken with ICU nurses (de Beer and Chipps 2014; Listerfelt et al. 2019), especially in Europe.

To address this gap, the aim of this survey was to determine the level of cultural competence of ICU nurses working in different European regions. The survey provided a baseline to inform the 'Multicultural Care in European Intensive Care Units (MICE-ICU) project in developing an online multicultural educational module to improve knowledge, skills and competencies of ICU nurses. The study was funded in 2016 by the European Union (EU) Erasmus + programme under Key Action 2 - Cooperation for innovation and the exchange of good practices, strategic partnerships.

Methods

Objective

To determine the level of cultural competence of European critical care nurses.

Design

This was a multi-country, cross-sectional, on-line survey undertaken from March to June 2017. The study was reported according to the STrengthening the Reporting of OBservational studies in Epidemiology studies (STROBE) checklist (von Elm et al. 2008).

Participants

All European ICU nurses were eligible to participate. We included nurses working in adult ICUs with a minimum of one-year critical care work experience. We excluded anaesthesia nurses, nurses working in accident and emergency care or having less than one-year of critical care work experience. To access participants, invitations with the link to the online questionnaire were posted on the EU project partners' websites, social media (Twitter, Facebook) and via organisations' mailing lists of members. These included: the MICE-ICU project website (<http://mice-icu.eu/>); the Polish Association of Anaesthesia and Intensive Care Nurses (<https://www.wfsahq.org/about-us/national-member-societies/173-poland-polish-society-of-anaesthesiology-and-intensive-therapy>), the University of Ostrava, Czech Republic (<https://www.osu.eu/>), the College of Nursing in Celje, Slovenia (<http://www.vzsce.si/en/>) and the European Federation of Critical Care Nursing Associations (<https://www.efccna.org/>).

It was not possible to provide a survey denominator (number of EU ICU nurses meeting inclusion criteria), therefore, the aim was to recruit as large a sample as possible within a population size that is unknown. Based on an estimated population size of 100,000 we

needed 383 participants to provide a 95% CI and a 5% margin of error. Our target sample size was 600 participants to ensure we captured broad representation.

Data collection

Data were collected using an online version of the Healthcare Provider Cultural Competence Instrument (HPCCI) using the online platform <https://ap.adminproject.eu/>. The AdminProject system was operated by Danmar Computers; a named project partner in the EU grant. The link to the online questionnaire were posted on the EU project partners' websites, social media (Twitter, Facebook), and via organisations' mailing lists of members. Participants could open the link on the online version of the questionnaire without any registration. The questionnaire was provided in four languages (English, Polish, Slovenian and Czech) following requirements for cultural adaptation of research instruments. Several reminders to participate were posted on social media and websites during the data collection period.

Ethical considerations

The research protocol was approved by the Ethical Committee, University of Rzeszów, Poland (4/4/2017, 6th April 2017). The study was conducted in accordance to the Declaration of Helsinki (World Medical Association 2013). The study aim and process was provided in the introduction to the questionnaire on the online platform. Participants were assured anonymity and confidentiality of their data. Personal data were processed in compliance with the regulations of the European Parliament and Council. Completing the questionnaire was understood as giving consent to participate. Data were stored on the online administration platform and were protected by limited password access to those involved in the research team. Confidentiality and safety of data were outlined in the Privacy Policy. After data collection, the data were downloaded into an Excel spreadsheet and stored on a password protected computer at the university of the first author. According to university policy, data will be stored for five years.

Survey Instrument

The HPCCI (Schwarz et al. 2015) was used following consent from its authors. The HPCCI consisted of 49 items divided into five subscales: awareness and sensitivity measured on a 9-degree scale (from 1 strongly disagree, 4 neutral, to 7 strongly agree, 8 no opinion, 9 N/A); behaviour measured on a 9-degree scale (from 1 never to 7 always, 8 no opinion and 9 N/A); patient-centred orientation on a 6-degree scale (from 1 never to 5 very often, and 6 N/A); practice orientation on a 6-degree scale (from 1 strongly disagree, 3 neutral, to 5 strongly agree, and 6 N/A); self-assessment on a 6-degree scale (from 1 strongly disagree, 3 neutral, to 5 strongly agree, and 6 N/A) (Schwarz et al. 2015). The Cronbach Alfa for subscales of the original version of the HPCCI was: awareness and sensitivity, 0.791; behaviour, 0.926; patient-centred orientation, 0.764; practice orientation, 0.722; and self-assessment, 0.920 (Schwarz et al. 2015). Additionally, sociodemographic information about respondents' age, gender, education, religious affiliation, work experience, previous multicultural education, foreign language skills and traveling experience was collected.

The online version of the scale was prepared in four languages: n English, Polish, Slovenian and Czech. The last three were prepared following requirements for cultural adaptation of research instruments using a process of backward and forward translation. Each country piloted the questionnaire among five nurses to check its clarity and understanding.

Data analysis

The data were analysed using the IBM SPSS Statistics statistical package (v25). Continuous variables were summarised using the mean, standard deviation, median and minimum and maximum values. Dichotomous variables were analysed and presented using the number and percentage of categories. For group comparison we used either Mann-Whitney *U* test (two groups) or Kruskal - Wallis ANOVA (more than two groups). To determine the relationship between variables we used a Spearman's rank-order correlation coefficient, and to determine correlations between variables with a normal distribution we used the Pearson product-moment correlation coefficient. The obtained results were considered statistically significant at the $p < 0.05$ level.

Results

In total, 600 questionnaires were returned, nine were incomplete and 591 fully completed questionnaires were analysed. The 591 ICU nurses came from 15 European countries including Czech Republic, Poland, Slovenia, Denmark, Finland, Norway, Sweden, Iceland, Ireland, United Kingdom, Israel, Greece, Croatia, Macedonia and Portugal. For analysis, data were divided into five regional groups: nurses from northern Europe, southern Europe and those from central Europe divided into Czech Republic, Poland and Slovenia. This division of countries reflected the division used in other multi-country research (Hofhuis et al. 2018; Sprung et al. 2003; Tume et al. 2017).

Participants

The socio-demographic characteristics of nurses surveyed are presented in Table 1. The mean age was 39 years (SD = 9), mean work experience was 18 years (SD = 10) and mean ICU work experience was 15 years (SD = 10). The majority of respondents were women (n = 518; 88%). Respondents had varied levels of education and the diploma level was the largest group (n = 145; 25%). A majority of nurses surveyed admitted speaking a second language (n = 400; 68%) and did not participate in previous education regarding multicultural nursing (n = 520; 88%). Over one third of nurses surveyed seldom travelled to other countries (n = 224; 38%). Most respondents described themselves as having religious beliefs (n = 356; 60%).

The general level of nurses' cultural competence

The highest scores were obtained for 'awareness and sensitivity' (M = 5.09, SD = 0.67) and the lowest for 'patient-centred communication' (M = 3.26, SD = 0.94). For each subscale of the HPCCI, responses among the five regions differed significantly ($p < 0.001$) (Table 2).

Nurses cultural competence within the five subscales of HPCCI

The scores recorded by regions in all items of the HPCCI are shown in Table 3. For subscale 'awareness and sensitivity', nurses scored highest for item 6: *spiritually and religious beliefs are important aspects of many cultural groups* (M = 5.78, SD = 1.17); and lowest for item 2: *people with a common cultural background think and act alike* (M = 3.41, SD = 1.55) which was reverse scored signifying moderate agreement with this statement.

For the subscale 'behaviour', nurses recorded the highest scores for item 23: *I welcome feedback from co-workers about how I relate to others with different cultures* (M = 4.99, SD = 1.75) and lowest for item 14: *I have resource books and other materials available to help*

Table 1
Socio-demographic characteristic of nurses surveyed.

Gender	Central Europe Czech Republic		Poland		Slovenia		North Europe		South Europe/ Levant		General results	
	n	%	n	%	n	%	n	%	n	%	n	%
Female	206	93.2	133	85.8	71	73.2	83	92.2	25	89.3	518	87.64
Male	15	6.8	22	14.2	26	26.8	7	7.8	3	10.7	73	12.36
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0
Speaking other languages												
Yes	123	55.7	95	61.3	80	82.5	74	82.2	28	100.0	400	67.68
No	98	44.3	60	38.7	17	17.5	16	17.8	0	0.0	191	32.32
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0
Previous education on multicultural nursing												
Yes	38	17.2	7	4.5	2	2.1	22	24.4	2	7.1	71	12.01
No	183	82.8	148	95.5	95	97.9	68	75.6	26	92.9	520	87.99
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0
Visits in other countries												
Regularly	27	12.2	8	5.2	8	8.2	28	31.1	6	21.4	77	13.03
Very often	30	13.6	20	12.9	6	6.2	16	17.8	8	28.6	80	13.54
Often	56	25.3	38	24.5	39	40.2	37	41.1	10	35.7	180	30.46
Seldom	100	45.2	70	45.2	41	42.3	9	10.0	4	14.3	224	37.90
Never	8	3.6	19	12.3	3	3.1	0	0.0	0	0.0	30	5.07
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0
Education												
Health Assistant	51	23.1	0	0.0	19	19.6	0	0.0	0	0.0	70	11.8
Diploma nurse	54	24.4	9	5.8	70	72.2	11	12.2	1	3.6	145	24.5
Bachelor Degree in Nursing	29	13.1	45	29.0	5	5.2	35	38.9	9	32.1	123	20.8
Master Degree in Nursing	0	0.0	73	47.1	2	2.1	22	24.4	13	46.4	110	18.6
Specialisation	80	36.2	23	14.8	1	1.0	18	20.0	3	10.7	125	21.2
PhD	0	0.0	5	3.2	0	0.0	4	4.4	2	7.1	11	1.9
Lack of answer	7	3.2	0	0	0	0	0	0	0	0	7	1.2
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0
Religious beliefs												
Yes	85	38.5	133	85.8	71	73.2	46	51.1	21	75.0	356	60.24
No	136	61.5	22	14.2	26	26.8	44	48.9	7	25.0	235	39.76
Total	221	100.0	155	100.0	97	100.0	90	100.0	28	100.0	591	100.0

Table 2
Differences in results obtained by nurses in subscales of the Healthcare Provider Cultural Competence Instrument.

MICE ICU	General results			Czech Republic		Poland		Slovenia		North Europe		South Europe/ Levant		Statistic	
	N	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	H	p
Awareness and Sensitivity	586.00	5.09	0.67	4.90	0.54	4.90	0.59	4.92	0.65	5.83	0.48	5.75	0.50	171.793	<0.001
Behaviour	548.00	3.84	1.06	3.49	0.98	3.97	1.03	3.76	0.98	4.31	1.13	4.58	0.85	56.757	<0.001
Patient-Centered Communication	568.00	3.26	0.94	3.50	1.04	3.45	0.98	2.80	0.99	3.29	0.88	3.91	0.91	40.623	<0.001
Practice Orientation	590.00	3.67	0.47	5.18	0.41	4.78	0.43	4.98	0.50	3.89	0.36	3.97	0.47	102.420	<0.001
Self-Assessment	589.00	3.99	0.48	3.90	0.43	3.87	0.53	4.15	0.47	4.19	0.40	4.34	0.38	64.214	<0.001

N – number of respondents included in analysis, M – mean, SD – Standard Deviation, H – Kruskal Wallis test
 p < 0.05 level was considered statistically significant.

me learn about clients and families from different cultures (M = 2.52; SD = 1.56) and item 25: I document cultural assessments (M = 2.52', SD = 1.89).

Regarding the subscale 'patient-centred communication', nurses recorded the highest scores for item 28: when there are a variety of care options, how often do you give the client and their family a choice when making a decision? (M = 3.51, SD = 1.04) and lowest for item 30: When there are a variety of care options, how often do you ask the client and their family to take responsibility for their care? (M = 2.97, SD = 1.16).

In the fourth subscale 'practice orientation', nurses recorded the highest score for item 36: If health care providers are truly good at diagnosis, treatment and care, the way they relate to client and their family is not that important (M = 4.20, SD = 0.82) which was reverse scored. The lowest scores were obtained for item 39: a treatment and/or care plan cannot succeed if it is in conflict with a client and their family's lifestyle or values (M = 3.38, SD = 1.01).

In the subscale 'self-assessment', nurses recorded the highest scores for item 49: the use of effective interpersonal skills is very important in working with my clients and their families (M = 4.23, SD = 0.67) and the lowest for item 41: as a health care provider, I understand how to lower communication barriers with clients and their families (M = 3.61, SD = 0.80).

Nurses residing in southern Europe recorded higher scores than nurses from the other European regions in the majority of items in all subscales. For 47 items (out of 49) the differences between regional groups were statistically significant (p < 0.001).

Nurses cultural competence and sociodemographic characteristics

Relationships between sociodemographic characteristics and competence are shown in Table 4. Correlations showed that with higher age, nurses recorded higher scores in the subscales: 'awareness and sensitivity' (r = 0.169; p < 0.001), 'behaviour' (r = 0.207;

Table 3
Differences in results obtained by nurses in all items of the Healthcare Provider Cultural Competence Instrument.

MICE ICU	General results		Czech Republic		Poland		Slovenia		North Europe		South Europe/ Levant		Statistic	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	H	p
Awareness and Sensitivity														
Item 1.*	4.22	1.82	4.30	1.59	3.10	1.65	4.06	1.69	5.79	1.39	5.21	1.89	134.461	<0.001
Item 2.*	3.41	1.55	3.10	1.28	3.25	1.54	3.09	1.37	4.63	1.70	3.93	1.70	60.424	<0.001
Item 3.	5.54	1.18	5.47	1.19	5.60	1.17	5.37	1.26	5.66	1.18	6.00	0.77	7.294	0.121
Item 4.	5.12	1.49	4.51	1.57	5.51	1.20	5.25	1.43	5.61	1.22	5.89	1.48	69.339	<0.001
Item 5.*	5.47	1.38	5.52	1.20	4.99	1.49	5.38	1.45	6.15	1.16	5.93	1.54	61.052	<0.001
Item 6.	5.78	1.17	5.69	1.01	5.89	1.40	5.34	1.31	6.11	0.81	6.29	0.81	40.272	<0.001
Item 7.	5.18	1.33	4.85	1.25	5.18	1.33	4.82	1.56	6.14	0.66	5.92	0.69	93.395	<0.001
Item 8.*	5.35	1.59	5.81	1.20	4.61	1.82	4.95	1.79	5.88	1.15	5.50	1.50	58.348	<0.001
Item 9.	5.77	1.01	5.70	0.95	5.66	1.04	5.45	1.24	6.27	0.63	6.32	0.61	45.959	<0.001
Item 10.	5.64	1.22	5.36	1.22	5.68	1.20	5.50	1.31	6.21	0.80	6.29	1.24	52.065	<0.001
Item 11.	4.57	1.53	3.75	1.29	4.48	1.49	5.01	1.28	5.80	1.20	6.04	0.85	162.805	<0.001
Behavior														
Item 12.	3.88	1.70	3.37	1.47	4.47	1.79	3.61	1.69	4.18	1.65	4.61	1.75	40.188	<0.001
Item 13.	3.25	1.58	2.82	1.29	3.64	1.69	2.86	1.55	3.69	1.56	4.48	1.58	44.137	<0.001
Item 14.	2.52	1.56	2.25	1.44	2.95	1.60	2.36	1.49	2.69	1.72	2.15	1.46	22.211	<0.001
Item 15.	3.11	1.55	2.82	1.48	3.37	1.46	2.99	1.52	3.43	1.76	3.43	1.53	14.268	0.006
Item 16.	3.17	1.69	2.54	1.48	3.55	1.54	2.86	1.53	3.97	1.86	4.54	1.55	74.687	<0.001
Item 17.	3.40	1.64	2.96	1.54	3.89	1.51	3.42	1.71	3.47	1.72	4.00	1.78	30.617	<0.001
Item 18.	4.69	1.71	4.26	1.74	4.52	1.66	4.92	1.69	5.44	1.37	5.52	1.63	38.401	<0.001
Item 19.	4.44	1.32	4.70	1.25	4.04	1.28	4.01	1.30	4.67	1.25	5.25	1.29	43.206	<0.001
Item 20.	4.22	1.55	4.12	1.63	3.82	1.39	4.10	1.53	4.88	1.37	5.46	1.04	46.865	<0.001
Item 21.	4.45	1.59	4.42	1.71	4.16	1.44	4.47	1.59	4.82	1.52	5.07	1.36	13.118	0.011
Item 22.	4.94	1.79	4.57	1.96	4.79	1.61	5.48	1.55	5.37	1.75	5.29	1.56	23.776	<0.001
Item 23.	4.99	1.75	4.68	1.90	4.88	1.52	5.40	1.60	5.31	1.81	5.41	1.58	17.144	0.002
Item 24.	4.52	1.59	4.25	1.67	4.53	1.51	4.59	1.55	4.81	1.52	5.39	1.29	17.316	0.002
Item 25.	2.52	1.89	1.33	0.97	3.37	1.94	2.62	1.86	3.47	1.85	3.81	2.18	201.297	<0.001
Item 26.	3.42	2.07	3.14	2.24	3.51	1.88	3.13	1.93	4.23	1.98	3.71	1.86	23.514	<0.001
Item 27.	3.71	1.70	3.22	1.61	3.75	1.75	3.38	1.39	4.66	1.53	5.18	1.49	68.156	<0.001
Patient-Centered Communication														
Item 28.	3.51	1.04	3.55	1.07	3.44	0.99	3.24	1.04	3.66	0.98	4.07	0.87	16.242	0.003
Item 29.	3.31	1.07	3.37	1.03	3.45	0.95	2.64	1.12	3.48	1.03	3.93	1.11	44.917	<0.001
Item 30.	2.97	1.16	3.14	1.17	3.09	1.07	2.35	1.13	2.76	1.03	3.75	1.08	47.646	<0.001
Practice Orientation														
Item 31.	3.56	0.81	3.42	0.76	3.65	0.80	3.61	0.89	3.54	0.82	4.04	0.74	24.379	<0.001
Item 32.*	3.78	1.06	4.16	0.87	3.01	1.00	4.07	0.94	3.97	0.95	3.48	1.16	124.660	<0.001
Item 33.*	3.92	1.01	3.96	0.96	3.56	0.98	3.87	1.03	4.42	0.92	4.00	1.15	56.234	<0.001
Item 34.*	3.41	1.15	3.50	1.15	3.15	1.09	3.21	1.16	3.65	1.02	4.04	1.29	27.833	<0.001
Item 35.*	3.63	0.94	3.68	0.92	3.37	0.93	3.47	1.03	4.02	0.70	3.82	1.02	34.353	<0.001
Item 36.*	4.20	0.82	4.39	0.71	3.79	0.92	4.06	0.80	4.46	0.71	4.57	0.57	71.619	<0.001
Item 37.	3.58	1.04	3.83	0.92	3.19	1.09	3.21	1.03	3.88	0.97	4.07	0.90	59.960	<0.001
Item 38.*	3.54	0.90	3.59	0.96	3.57	0.74	3.50	0.97	3.38	0.95	3.57	0.79	4.489	0.344
Item 39.	3.38	1.01	3.39	1.03	3.21	1.03	3.22	1.05	3.64	0.84	3.96	0.69	23.377	<0.001
Item 40.*	3.73	0.90	3.85	0.84	3.50	0.96	3.54	1.01	3.93	0.73	4.14	0.65	28.283	<0.001
Self-Assessment														
Item 41.	3.61	0.80	3.55	0.81	3.44	0.85	3.60	0.80	3.92	0.63	4.07	0.60	30.498	<0.001
Item 42.	4.05	0.61	4.09	0.60	3.83	0.64	4.23	0.53	4.07	0.54	4.32	0.55	34.700	<0.001
Item 43.	4.00	0.62	4.01	0.55	3.85	0.66	3.95	0.76	4.15	0.55	4.32	0.48	21.965	<0.001
Item 44.	4.12	0.71	3.83	0.70	4.12	0.72	4.38	0.65	4.43	0.52	4.50	0.51	84.609	<0.001
Item 45.	3.81	0.73	3.66	0.68	3.79	0.77	3.91	0.78	3.94	0.69	4.21	0.63	25.618	<0.001
Item 46.	4.16	0.65	4.12	0.55	3.94	0.77	4.30	0.62	4.41	0.56	4.39	0.57	39.246	<0.001
Item 47.	3.89	0.78	3.59	0.83	3.78	0.69	4.31	0.62	4.19	0.62	4.39	0.50	92.260	<0.001
Item 48.	4.03	0.67	3.89	0.68	3.85	0.62	4.34	0.65	4.29	0.59	4.25	0.59	66.011	<0.001
Item 49.	4.23	0.67	4.26	0.60	4.05	0.73	4.24	0.69	4.33	0.67	4.61	0.50	23.042	<0.001

* Reverse scoring, M – mean, SD – Standard Deviation, H – Kruskal Wallis test
p < 0.05 level was considered statistically significant.

p < 0.001), 'practice orientation' (r = 0.145; p < 0.001) and 'self-assessment' (r = 0.125; p = 0.002). Additionally, the longer the work experience, the higher the scores for 'behaviour' (r = 0.110; p = 0.011). Women recorded higher scores in subscale 'practice orientation' (M = 3.70; p < 0.001); and speaking other languages significantly correlated with higher scores in all subscales except 'practice orientation'. Previous education on multicultural nursing significantly correlated with subscales: 'awareness and sensitivity' (M = 5.40; p < 0.001), 'behaviour' (M = 4.31; p < 0.001), 'practice orientation' (M = 3.88; p < 0.001) and 'self-assessment' (M = 4.13; p = 0.010). However, nurses who rarely visited other countries had a lower level of cultural competence in: 'awareness and sensitivity' (rho = -0.283, p < 0.001), 'behaviour'

(rho = -0.194, p < 0.001), 'practice orientation' (rho = -0.153, p < 0.001) and 'self-assessment' (rho = -0.174, p < 0.001).

Discussion

This is the first large survey of its kind describing the level of cultural competence of European ICU nurses using the HPCCI.

The general level of nurses' cultural competence

In general, responding ICU nurses tended to have a high cultural 'awareness and sensitivity', which are the first two steps towards cultural competence. This was also reported by Cicolini and col-

Table 4 Nurses' sociodemographic characteristics and competence measured by Healthcare Provider Cultural Competence Instrument.

HPCCI	Age		Work experience in ICU		Gender		Speaking other languages		U Mann-Whitney		Previous education on multicultural nursing		U Mann-Whitney		Visits in other countries*									
	r	p	r	p	Female	Male	Yes	No	Z	p	Yes	No	Z	p	rho	Spearman								
	Pearson		Pearson		M	SD	M	SD	M	SD	M	SD	M	SD										
Awareness and Sensitivity	0.169	<0.001	0.046	0.269	5.10	0.66	5.00	0.73	-0.831	0.406	5.16	0.68	4.93	0.63	-3.787	<0.001	5.40	0.61	5.04	0.67	-3.905	<0.001	-0.283	
Behavior	0.207	<0.001	0.110	0.011	3.86	1.03	3.70	1.24	-1.188	0.235	4.00	1.05	3.48	1.00	-5.407	<0.001	4.31	1.03	3.77	1.05	-3.925	<0.001	-0.194	
Patient-Centred	0.025	0.556	-0.048	0.259	3.28	0.93	3.08	0.98	-1.640	0.101	3.31	0.96	3.13	0.87	-2.219	0.026	3.40	0.86	3.24	0.95	-1.106	0.269	-0.053	
Communication																								
Practice Orientation	0.145	<0.001	0.064	0.124	3.70	0.45	3.49	0.52	-3.502	<0.001	3.69	0.48	3.62	0.43	-1.777	0.075	3.88	0.36	3.64	0.47	-4.238	<0.001	-0.153	
Self-Assessment	0.125	0.002	0.069	0.098	4.00	0.48	3.93	0.47	-1.196	0.232	4.03	0.45	3.89	0.52	-3.131	0.002	4.13	0.42	3.97	0.48	-2.574	0.010	-0.174	

* 1 - regularly; 5 - never; M - Mean; SD - Standard Deviation.
p < 0.05 level was considered statistically significant.

leagues (2015) with Italian nurses using the Cultural Competence Assessment tool (Doorenbos et al. 2005; Schim et al. 2003) in which two subscales: 'cultural awareness and sensitivity' and 'culturally competent behaviour' were the basis for the HPCCI's first two subscales. In Cicolini's study, nurses scored higher in awareness and sensitivity than behaviour. Also, Halabi and de Beer (2018) reported that 87% of students surveyed in their study were more culturally aware, rather than competent. In an earlier study among critical care nurses by de Beer and Chipps (2014) similar results were found. Cultural awareness is considered as a basis for the development of cultural competence (de Beer and Chipps 2014), therefore our results can be understood as a good source for further intercultural nursing education.

The lowest competence score for ICU nurse responders was in 'patient-centred communication'. This is similar to the findings of de Beer and Chipps (2014), who reported lowest scores for "cultural encounters" (105 critical care nurses). They interpreted this finding as a result of critical care nurses being less likely to be involved in face-to-face encounters with patients from diverse cultures. Nevertheless, communication is considered as a basic skill in caring for critically ill patient (DeGrande et al. 2018; Halligan 2006), but nurses caring for patients with different languages and cultures experience constant challenge in being understood. Listerfelt et al (2019) found in their qualitative study that language barrier was the biggest problem in communicating with culturally diverse patients and their relatives on ICU.

Nurses cultural competence in five subscales of HPCCI

Two items received the lowest scores within the HPCCI questionnaire, *I have resource books and other materials available to help me learn about clients and families from different cultures* and *I document cultural assessments*. This suggests that the topic of nursing care for the culturally diverse ICU patient is not well described and reflected in materials available for nurses working on ICU and/or taking part in postgraduate education. There is, therefore, a need for nursing teachers and nursing associations at national and international levels to make such resources available, both in paper and online versions.

Significantly better scores were found in four out of five subscales of HPCCI ('Awareness and sensitivity', 'Behaviour', 'Practice orientation', and 'Self-assessment') and higher scores were more prevalent for northern and southern European nurse responders. The explanation of this trend may lie in the multicultural society in which they live. Additionally, a majority reported that they regularly visit other countries and 100% of nurses from Southern Europe speak a second language. Conversely, countries from central Europe, like Poland, Slovenia and Czech Republic, tend to be more culturally homogenous (Brown 2001; Hloušek 2017). An association between the level of cultural competence and exposure to different cultures was demonstrated in many studies. For example, Cruz and colleagues (2016) found that living in a culturally diverse environment positively influenced the cultural competence of nurses. Repo and co-authors (2017) reported that cultural competence was higher among nursing students when they interacted with different cultures more frequently. Furthermore, speaking at least one other language has been associated with higher cultural competence in other studies (Almutairi et al. 2017; de Beer and Chipps 2014; Repo et al. 2017).

Nurses cultural competence and sociodemographic characteristics

It has been highlighted that a younger generation such as nursing students and young nurses are considered more receptive towards culturally diverse populations (Almutairi et al. 2017; Bunjitpimol et al. 2016). Through their frequent travelling and foreign languages

education, they quickly adapt to new and foreign situations, and are perhaps more exposed to cultural education compared to nurses educated in past decades. Our results show that with age, nurses scored higher levels of cultural competence in four out of five subscales; and with longer work experience they received better results in the subscale 'behaviour'. This may be explained by the relatively young age of our respondents with an average age of 39 years and average ICU work experience of 15 years.

In our study, 88% of nurses had no previous education on cultural nursing, yet, previous education on multicultural nursing significantly correlated with four out of five subscales, indicating that cultural education helped to develop cultural competence. Halabi and de Beer's (2018) study of Saudi Arabian students, reported that 42% had previous cultural competence training and it also correlated with better scores in cultural competence. Studies amongst nurses and physicians from Switzerland revealed that lack of practical experience of caring for diverse population and lack of or inadequate cross-cultural training was associated with poor cultural awareness (Casillas et al. 2014). Therefore, it is recommended that regular education and cultural competence training for both qualified nurses and student nurses should be provided (Bunjitpimol et al. 2016; Gallagher and Polanin 2015). One of the methods in cultural training is exposure to a culturally diverse environment, e.g. during study visits or students' mobility, placement in multicultural environments. Results of our study show that nurses who rarely visited other countries had lower levels of cultural competence measured by four scales.

Limitations

Our study has some limitations. First, we used a purposeful sampling methodology and method of data collection. The invitation to participate and link to the online questionnaire was sent to all European members of EfCCNa. We did not receive responses from participants in all countries and thus findings may not reflect the cultural competence of all European nurses, particularly those from central European countries such as Germany, Belgium, Netherlands, Austria and Switzerland. The sampling method was reliant upon the investigators involved in the study and the study partnerships, hence the larger numbers from Poland, Czech Republic and Slovenia. However, the large number of respondents from participating countries indicates reasonable generalisability for these countries. Second, a survey can only provide a superficial snapshot of cultural competence: a mixed methods study exploring behaviours, coherence and processes in an in-depth fashion would have provided more in-depth answers.

Conclusions

The ICU nurse respondents showed a moderate level of cultural competence, with better results in cultural awareness and sensitivity than patient-centered communication, practice orientation and cultural behaviour. Being exposed to cultural diversity in different ways, like living in a multicultural country, speaking a second language and visiting other countries influenced development of cultural competence. These findings provide a clear recommendation for nurses' professional education. The EU Erasmus + programmes and other programs which facilitate clinical practice in other multicultural environments may help to develop cultural competence, which are considered crucial in ICU nurses' work.

Ethical statements

The research protocol was approved by the Ethical Committee, University of Rzeszów, Poland (4/4/2017, 6th of April 2017). The

study aim and process was provided in the introduction to the questionnaire on the online platform. Participants were assured anonymity and confidentiality of their data. Completing the questionnaire was understood as giving consent to participate. Data were stored on the online administration platform and were protected by limited password access to those involved in the research team. After data collection, material was downloaded into an Excel spreadsheet and stored on a password protected computer at the university of the first author. According to university policy, data will be stored for five years.

Funding source

Paper is a part of the European project Multicultural Care in European Intensive Care Units (MICE-ICU) funded by the Erasmus plus programme (2016–1-PL01-KA202-026615).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

We would like to acknowledge and thank all the nurses who took the time to respond to this survey. Their participation helped us to design the MICE-ICU online module <https://lms.mice-icu.eu/>. In addition, we thank all those who were involved in developing the MICE-ICU project, especially Małgorzata Mikłosz, Łukasz Kłapa, Krzysztof Ciąpała from Danmar Computers and Simona Fabellini, Gary Thomas from Assist International HR and Irene Harth representing EfCCNa. Finally, we would like to acknowledge Erasmus plus programme (2016–1-PL01-KA202-026615) for financial support of our project "Multicultural Care in European Intensive Care Units (MICE-ICU)".

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