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The cultural competence of nurses and its relationship to socio-demographic factors: a cross-sectional survey

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Abstract

Introduction Escalating migration flows necessitate an intensified focus on the cultural competence of nurses, as culturally competent care is critical for accurately assessing and addressing the needs of patients from diverse backgrounds. Despite its importance, the cultural competence of nurses remains suboptimal and is influenced by various socio-demographic factors.

Aim To evaluate the cultural competence of nurses in Lithuania and examine its relationship with socio-demographic characteristics.

Methods A cross-sectional survey was conducted among 1,278 nurses across primary, secondary, and tertiary healthcare institutions in Lithuania's public and private sectors. Cultural competence was assessed using the Nurse Cultural Competence Scale, and statistical analyses were performed to compare competence levels and determine associations with socio-demographic factors.

Results Overall, 97.2% of nurses rated their cultural competence as moderate, with only 17.0% attaining a high level (mean score 3.51 ± 0.07 ; total score 102.88 ± 23.35). The highest scores were observed in the Cultural Awareness (3.94 ± 0.16) and Cultural Sensitivity (3.70 ± 0.28) subscales, while Cultural Knowledge (3.30 ± 0.23) and Cultural Skills (3.22 ± 0.28) were lower. High cultural competence was significantly associated with younger age, university education, proficiency in foreign languages, specialized training, employment in the private healthcare sector, work in urban or rural areas, shorter work experience, and clinical experience with asylum seekers and refugees (p < 0.05).

Conclusions The findings indicate that Lithuanian nurses demonstrate moderate cultural competence, with marked deficits in theoretical knowledge and practical skills. This underscores the imperative for enhanced cultural training, indicating that cultural training is necessary to improve the cultural competence of nurses.

Clinical trial number Not applicable.

Keywords Lithuanian nurses, Cultural competence, Migrants

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Introduction

Rising migration flows demand cultural competence among health professionals, because most migrants are not Europeans, and patients' cultural differences such as body language, mindset, accepted norms, and traditions are often significant barriers to quality healthcare [1-5]. Cultural competence encompasses knowledge of different cultures and the ability to understand and adapt to patients' values, beliefs, and behavioral patterns [6]. Our study is theoretically grounded in Campinha-Bacote's model of cultural competence, which conceptualizes competence as a dynamic and evolutionary process that enables one to deliver healthcare that is effective, safe, and of high quality to patients from different cultures, highlighting the importance of continuous learning and self-reflection. The model is based on five key elements: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire [7].

Cultural awareness is required to understand the differences between yourself and people from different countries and cultures with unique values [7, 8]. This process involves recognizing one's own biases, prejudices, and assumptions about people from other cultures [7]. Cultural knowledge helps nurses understand how patients think and behave when ill and what should be considered when caring for patients from different ethnic groups [9]. Cultural skills refer to communicating effectively with people from other cultures and gathering relevant information about the patient's medical history by structuring and applying existing knowledge [2], including a physical assessment of ethnically diverse patients [7]. Cultural encounters involve direct interactions with individuals from diverse cultural backgrounds. These experiences are essential for refining cultural knowledge and skills, reducing reliance on stereotypes, and developing more accurate, empathetic perceptions of others' worldviews and health behaviors. Cultural desire is the intrinsic motivation of healthcare professionals to become culturally competent, driven by a personal commitment to understanding and respecting cultural differences in healthcare [7]. While the theoretical foundation of this study is based on Campinha-Bacote's five-dimensional model, the operationalization of cultural competence in this research follows Perng and Watson's [10] framework of four core components-cultural awareness, cultural knowledge, cultural sensitivity, and cultural skills-due to its practical applicability and validated use in nursing populations and because it reflects the conceptual underpinnings of the Campinha-Bacote model.

Evidence shows that cultural competence significantly enhances the quality of healthcare services, as nurses with high cultural competence are better equipped to engage in effective intercultural communication with patients. This enables more accurate assessments of a patient's needs, the development of tailored treatment plans, and improved patient outcomes [11, 12]. Additionally, cultural competence contributes to advancing public health by mitigating health disparities across diverse social groups and fostering equity in healthcare delivery [3, 13, 14]. Nevertheless, other studies suggest that the cultural competence of nurses is low to sufficient, that nurses lack cultural knowledge and skills [15-21, 22], and that they face challenges and barriers when trying to provide culturally competent care. These obstacles include a lack of adequate training or resistance to changing established practices [23] and insufficient theoretical knowledge [17] or limited formal training in cultural competence [6]. It is also clear that cultural competence is determined by social and demographic factors such as gender, sex, age, level of education, length of service, proficiency in foreign languages, experience with migrants, and participation in training [2, 15-20, 24-30].

Experience in other countries [2, 15–20, 24–30] shows that cultural traditions and religious beliefs can cause gender differences to become barriers between female patients and male health professionals. Gender also impacts patients' decision-making due to the predominantly male caregiving system in the family [31]. Female nurses have a higher level of cultural competence compared to males. Female nurses also have a higher cultural sensitivity score, demonstrating respect for cultural differences and building trust between patients and carers [32].

Evidence shows that older nurses are more likely to have a higher level of cultural competence than younger ones [15, 20, 22, 28]. Older nurses are more culturally sensitive, leading to patient satisfaction and the development of a trusting patient–caregiver relationship [33].

Research findings in other countries show that nurses with a university education and a master's degree demonstrate a higher level of cultural competence. This is influenced by the nurses' orientation toward learning and acquiring more profound theoretical and practical knowledge [2, 15–18, 20, 22, 25, 26, 28, 34]. Nurses with higher levels of education are also more confident in providing care to patients from other cultures and feel reassured that the patient understands their actions [35].

Longer service (seniority) also leads to higher cultural competence among nurses [17, 19, 20, 22, 36]. It should be noted, however, that the impact of seniority on cultural competence is often assessed through nurses' working environment and experience with migrants. Evidence shows that nurses working with colleagues and patients from different cultures rapidly increase their level of cultural competence along with their work experience [37].

Evidence also shows that proficiency in foreign languages, interacting with people from different cultures, and being in a multicultural environment correlate significantly with cultural competence [2, 15–20, 22, 25, 26, 28]. Nurses' lack of cultural competence training is inseparable from their lack of practical experience in applying cultural competence in patient care practice. The results confirm the demand for cultural skills and theoretical training, making service providers aware of potential challenges when treating patients from other cultures [28, 38]. Research shows that an effective training program improves the cultural competence of nurses [2, 15, 19, 21, 24, 28-30]. Nevertheless, it is recognized that there is little education about cultural diversity at university or in the workplace, and both students and nurses lack theoretical knowledge [17]. Although the cultural competence of nurses is often assessed with structured assessment tools, nurses themselves often assess their cultural competence based on work experience and patient feedback [6].

Beginning June 2021, Lithuanian had the highest migration flows in the country's history. At the beginning of 2023, Lithuania had citizens from 152 countries (this indicator was 6.67% in January 2023, 3.57% in 2022, and only 1.76% in 2018) [39]. Increasing migration flows require an analysis of the cultural competence and preparedness of nurses to care for patients from different cultures. Other research shows that it is not only patients from different cultures who experience difficulties when nurses lack cultural competence, but the nurses themselves also struggle when providing services to patients from different cultures [5, 40]. In Lithuania, the cultural competence of nurses is a relatively new issue, and research on this topic is lacking. This study is the first study representing the cultural competence of Lithuanian nurses throughout the whole country, not just individual groups or institutions. Based on the studies carried out in the countries discussed above, the level of nurses' cultural competence varies among countries, and their cultural competence is linked to various socio-demographic factors such as sex, age, level of education, length of service, proficiency in foreign languages, experience with migrants, and participation in training. The results of our study, in comparison with other research findings, provide new findings on the cultural competence of nurses. We formulated two research questions: (1) What is the general level of cultural competence of nurses and what is the level of each subscale (NCCS-CA, NCCS-CK, NCCS-CSe, NCCS-CS) in providing care to patients from diverse cultural backgrounds, and what proportion of nurses have a moderate or high degree of cultural competence? (2) How are nurses' socio-demographic factors associated with a high general level of cultural competence and with the level of each subscale?

Methods

Aim

This study aimed to identify the cultural competence of nurses and its relationship to socio-demographic factors.

Study design

This study is a part of the research project titled "Assessing the Health and Social Service Needs of Asylum Seekers and Refugees; Cultural Competence of Nurses" [3, 4]. While the Campinha-Bacote model offers a five-component structure, the Perng and Watson model was chosen for this study because of its structural clarity, empirical applicability, and suitability. The four components (cultural awareness, knowledge, sensitivity, and skills) allow for a consistent and accurate assessment of the cultural competence of nurses in practice, particularly given the quantitative design and context of the study. The Nurse Cultural Competence Scale (NCCS, Perng and Watson, 2012) measured the cultural competence of nurses. The advantage of this scale is that it indicates not only the general level of competence but also the specific abilities that need to be developed. The Cronbach's alpha results for the four subscales ranged from 0.78 to 0.96. The original version of the NCCS consists of four subscales (totaling 41 items), which are presented in hierarchical order according to the complexity of the questions and include Cultural Awareness (NCCS-CA 10 items), Cultural Knowledge (NCCS-CK 9 items), Cultural Sensitivity (NCCS-CSe 8 items), and Cultural Skills (NCCS-CS 14 items). A 5-point Likert scale was used, with response categories of strongly agree, agree, no comment, disagree, and strongly disagree. Total scores for 41 items ranged from 41 to 205 points. The higher the score, the higher the level of cultural competence [10]. Although higher scores indicate greater cultural competence, the original NCCS instrument does not provide specific criteria for defining when competence is considered low, medium, or high. However, some studies using this scale offer the following interpretations: low cultural competence for scores close to the minimum [41]; moderate cultural competence for scores around the middle of the scale; and high cultural competence for scores close to the maximum (205).

The Nurse Cultural Competence Scale (NCCS-v. LT) was adapted for Lithuania by the principal investigator with the permission of the authors, following the guidelines of the instrument translation procedure [41]. A pilot study and psychometric evaluation of the scale were carried out at two-week intervals, demonstrating the scale's validity in Lithuania.

To determine the correlation between nurses' cultural competence and socio-demographic factors, nurses were asked socio-demographic questions on sex, age, education, language proficiency, specialization in nursing, level, type, and geographical location of the institution, clinical work experience, and experience of providing healthcare to asylum seekers and refugees from Ukraine.

Sample

All nurses working in Lithuania were invited to participate in the survey. The inclusion criteria were that participants held a valid nursing license, worked full- or part-time in the healthcare sector, and were willing to participate in this study. Excluded were nurses who were not engaged in nursing practice and nursing students, because they are not formally recognized as registered nurses and their cultural competence is still developing as part of their university education. The Cochran formula [42] was used to calculate the sample size of nurses, with the assumption that the low level of cultural competence of nurses is unknown and could reaches 50%, with a statistical significance level of 0.05. The sample size was determined to be 385 nurses based on this value. There were 21,233 registered nurses in Lithuania at the time of the survey [43]. One thousand two hundred seventyeight nurses participated in the study and met the inclusion criteria.

Data collection

A cross-sectional anonymous online survey was conducted from December 2022 to May 2023 using multichannel invitation and snowball sampling. Personal healthcare institutions (primary healthcare centers, outpatient clinics, mental health centers, polyclinics, and hospitals) having contracts with the Territorial Health Insurance Funds were sent an electronic invitation to participate in the survey with a request for cooperation in distributing the questionnaires. In collaboration with chief nursing administrators, paper questionnaires were distributed in sealed envelopes in healthcare facilities to nurses asking for the survey in paper form. Invitations to participate in the survey were also distributed on Instagram and Facebook.

Data analysis

The data were entered and coded in Epidata version 4.6 for data entry and coding and then exported to SPSS version 25 for analysis. The levels of cultural competence were determined according to the highest score achieved across the four subscales of the NCCS. Nurses with 2.5 and higher scores were assigned to a moderate knowledge (cultural competence) group. Nurses with four and higher scores were assigned to a high knowledge (cultural competence) group. The Shapiro–Wilk test was used to determine whether the variables were normally distributed. The T-test was used to compare the means with the normal distribution of variables. When variables do not comply with the normality assumption, the

Mann–Whitney *U* test was used. The distribution of the respondents between the categories of qualitative variables was compared using the χ 2 test if 20% or more of expected values were more significant than 5. The categorical variables included age (younger than median/ older than median), educational level (non-university/ university), and place of residence (urban/rural). The level of significance for the statistical analysis was 0.05. The measures of central tendency were mean ± standard deviation for variables with a normal distribution or median (first quartile-third quartile) for variables with a non-normal distribution. Most participants were women (n = 1257), with the proportion of men below 2%. The relationship between sex and cultural competence was not assessed.

Results

Characteristics of the participants

A total of 1,278 nurses participated in the study. The vast majority were women (98.4%) and predominantly held non-university qualifications (76.1%). Participants ranged from 20 to 72 years of age, with a median age of 49 (interquartile range: 26–64 years). Language proficiency was high among respondents: 90.1% reported fluency in more than one foreign language, and 89.3% were proficient in either English or Russian. Over half of the nurses possessed a specialized qualification (54.9%) and were employed in tertiary-level institutions (54.1%). Nearly all worked in the public healthcare sector (96.8%), with 84.3% practicing in urban areas. The median work experience was 27 years (<1 to 55 years). Clinically, 62.8% reported providing care to Ukrainian refugees, while 16.4% had experience with asylum seekers (Table 1).

The level of cultural competence of nurses

The overall level of cultural competence among Lithuanian nurses was moderate. The mean score on the Nurse Cultural Competence Scale (NCCS) was 102.88 ± 23.35 out of a maximum of 205, corresponding to an average domain score of 3.51 ± 0.07 on a 5-point scale. Notably, 97.2% of nurses were classified as having moderate cultural competence, whereas only 17% achieved a high level. This dichotomy underscores a broad recognition of cultural differences among nurses, yet it simultaneously highlights considerable room for improvement in developing higher levels of competence.

Analysis of the four subscales revealed distinct strengths and weaknesses. Cultural awareness was the highest-scoring domain (mean 3.94 ± 0.16), with 40.5% of nurses attaining a high level in this area. In contrast, cultural knowledge (mean 3.30 ± 0.23) and cultural skills (mean 3.22 ± 0.28) were notably lower. These results suggest that while nurses are generally aware of cultural differences, there is a significant deficit in theoretical

Table 1 Characteristics of the participants (n = 1278)

Variable	Nurses	
	n	%
Gender - sex		
Men	20	1.6
Women	1257	98.4
Older age		
Yes	635	49.7
No	625	48.9
Educational level		
Non-university (High school, College)	973	76.1
University	305	23.9
Proficiency in English or Russian		
Yes	1141	89.3
No	137	10.7
Proficiency in more than one language		
Yes	1151	90.1
No	127	9,9
Proficiency in more than two languages		
Yes	443	34.7
No	835	65.3
Specialization – Anaesthesia and intensive	e care	
Yes	230	18.0
No	1048	82.0
Specialization – Community care	1010	02.0
	171	13.4
No	1107	86.6
Specialization – Operating theater nursing f	n 1107	00.0
	59	16
No	1210	4.0 05 /
Specialization - Mental health nursing	1219	90.4
	107	15 /
No	1.97	016
Specialization Emorgonal care	1081	04.0
Specialization – Emergency care	45	25
ies Na	45	3.5 0.5 F
	1233	90.5
	502	45.5
res	582	45.5
	696	54.5
Advanced practice nursing	74	5.0
Yes	/4	5.8
No	1204	94.2
Have more than one specialization	<i>c</i> .	
Yes	68	5.3
	1210	94./
Level of the institution – primary healthca	ire	
Yes	266	20.8
No	1012	/9.2
Level of the institution – secondary health	ncare	
Yes	337	26.4
No	941	73.6
Level of the institution – tertiary healthca	re	
Yes	691	54.1
No	587	45.9
Sector of the institution – public sector		

Table 1 (continued)

Variable	Nurses	
	n	%
Yes	1237	96.8
No	41	3.2
Sector of the institution – private sector		
Yes	67	5.2
No	1211	94.8
Work in an urban area		
Yes	1077	84.3
No	201	15.7
Work in a rural area		
Yes	73	5.7
No	1205	94.3
Work in a district center		
Yes	141	11.0
No	1137	89.0
Have less work experience		
Yes	649	50.8
No	629	49.2
Provide services to asylum seekers		
Yes	210	16.4
No	870	68.1
Provide services to Ukrainian refugees		
Yes	803	62.8
No	363	28.4

understanding and the practical application required for fully culturally competent care (Table 2).

Correlation of the cultural competence of nurses with socio-demographic characteristics

Our analysis revealed robust associations between various socio-demographic characteristics and the cultural competence of nurses, with notable differences across the overall scale and constituent subscales.

General cultural competence

High overall cultural competence was significantly associated with several key factors. Nurses with a university degree demonstrated higher competence than those without such qualifications (p < 0.05). Additionally, proficiency in English or Russian and fluency in more than one foreign language were linked to enhanced levels of competence (p < 0.05). The data further indicated that nurses with multiple specializations, particularly those with more than one area of expertise, exhibited significantly higher competence scores. Notably, employment in the private healthcare sector and direct clinical exposure-specifically, providing care to asylum seekers-positively correlated with higher overall cultural competence. In contrast, factors such as older age, the level of the healthcare institution, the size of the settlement, and years of work experience did not consistently

			.,,	
Cultural competence and its subscales	$Mean \pm SD$	Points mean \pm SD	Moderate knowledge (%)	High knowledge (%)
Cultural Competence (General) (NCCS)	3.51 ± 0.07	102.88±23.35	97.2	17.0
Cultural Awareness (NCCS-CA)	3.94 ± 0.16	29.43 ± 6.01	98.6	40.5
Cultural Knowledge (NCCS-CK)	3.30 ± 0.23	20.72 ± 6.88	86.2	14.5
Cultural Sensitivity (NCCS-CSe)	3.70 ± 0.28	21.64 ± 4.86	97.7	24.9
Cultural Skills (NCCS-CS)	3.22 ± 0.28	31.10±10.41	84.2	11.8

Table 2 Comparison of the level of cultural competence and its subscales (n = 1,278)

correlate with higher general competence, nor did the provision of services to Ukrainian refugees (Table 3).

Cultural awareness

Significant associations emerged with educational and linguistic factors when examining the cultural awareness subscale. Nurses with university degrees, those proficient in English or Russian, and those fluent in multiple languages were more likely to exhibit high cultural awareness (p < 0.001 to p = 0.007). Additionally, working in the private healthcare sector and urban areas was associated with elevated cultural awareness. Conversely, age, the level of the institution, and years of work experience showed no significant impact on cultural awareness, suggesting that formal education and language proficiency are the primary drivers in this domain (Table 4).

Cultural knowledge

The cultural knowledge subscale revealed that younger nurses and those with a university education scored significantly higher (p = 0.004 and p = 0.016, respectively). Proficiency in more than two foreign languages emerged as a strong predictor of higher cultural knowledge (p = 0.001), underscoring the value of linguistic diversity in acquiring theoretical insights. Furthermore, working in the private sector and urban areas was associated with better performance in cultural knowledge, while nurses with less work experience also tended to have higher scores. Other variables, such as the level of the institution, did not significantly affect cultural knowledge, indicating that recent educational exposures and language skills may compensate for shorter professional tenure (Table 5).

Cultural sensitivity

Significant associations were noted for cultural sensitivity with younger age (p = 0.033) and language proficiency. Nurses proficient in English or Russian and those fluent in multiple languages (p = 0.012-0.016) demonstrated higher sensitivity. Moreover, having more than one specialization, particularly in community care, and working in the private sector or rural areas were linked to elevated cultural sensitivity (p < 0.05). Notably, work experience, educational attainment, and type of institution did not **Table 3** Relationship of general cultural competence with socio-
demographic factors (n = 1278)

Variable	Moderate knowledge (%)	High knowledge (%)	p
Older age			
Yes	84.81	15.19	0.090
No	81.22	18.78	
Education	al level – university degree		
Yes	79.21	20.79	0.042
No	84.23	15.77	
Proficienc	y in English or Russian		
Yes	82.15	17.85	0.015
No	90.44	9.56	
Proficienc	y in more than one languag	e	
Yes	82.30	17.70	0.036
No	89.68	10.32	
Proficienc	y in more than two languag	es	
Yes	78.96	21.04	0.005
No	85.20	14.80	
Specializa	tion – anaesthesia and inter	nsive care	
Yes	84.21	15.79	0.601
No	82.78	17.22	
Specializa	tion – community care		
Yes	78.36	21.64	0.080
No	83.76	16.24	
Specializa	tion – operating theatre nu	rsing	
Yes	81.36	18.64	0.725
No	83.11	16.89	
Specializa	tion – mental health nursing	g	
Yes	77.66	22.34	0.029
No	84.01	15.99	
Specializa	tion – emergency care		
Yes	84.44	15.56	0.797
No	82.98	17.02	
Have no s	pecialization		
Yes	84.80	15.20	0.125
No	81.56	18.44	
Advanced	practice nursing		
Yes	81.56	18.44	0.125
No	84.80	15.20	
Have mor	e than one specialization		
Yes	70.59	29.41	0.005
No	83.73	16.27	
Level of the	ne institution – primary heal	thcare	
Yes	80.08	19.92	0.149
No	83.81	16.19	

Table 3 (continued)

Variable	Moderate knowledge (%)	High knowledge (%)	р		
Level of t	Level of the institution – secondary healthcare				
Yes	82.69	17.31	0.844		
No	83.16	16.84			
Level of t	he institution – tertiary heal	thcare			
Yes	84.01	15.99	0.313		
No	81.88	18.12			
Sector of	the institution – private sec	tor			
Yes	70.15	29.85	0.004		
No	83.75	16.25			
Sector of	the institution – public sect	or			
Yes	83.52	16.48			
No	68.29	31.71	0.011		
Work in a	n urban area				
Yes	82.31	17.69	0.110		
No	86.93	13.07			
Work in a	rural area				
Yes	79.45	20.55	0.401		
No	83.25	16.75			
Work in a	district centre				
Yes	91.37	8.63			
No	82.01	17.99	0.006		
Have less	work experience				
Yes	81.45	18.55	0.127		
No	84.66	15.34			
Provide s	ervices to asylum seekers				
Yes	76.67	23.33	0.004		
No	84.87	15.13			
Provide s	ervices to Ukrainian refugee	S			
Yes	81.77	18.23	0.172		
No	85.04	14.96			

consistently influence cultural sensitivity, suggesting that the nuances of interpersonal communication and adaptive care strategies may be more contextually driven (Table 6).

Cultural skills

High cultural skills were significantly associated with a younger age profile (p = 0.029) and a university-level education (p = 0.013). Proficiency in English or Russian and fluency in multiple foreign languages correlated strongly with higher skill scores (p = 0.004-0.044). Nurses possessing more than one specialization, particularly those specializing in anaesthesia and intensive care, also exhibited superior cultural skills. Working in the private healthcare sector and providing care to asylum seekers were further identified as positive predictors of cultural skills (p < 0.05). In contrast, other socio-demographic factors such as years of work experience and the level of the institution had a less pronounced or inconsistent relationship with cultural skills (Table 7).

Table 4 Correlation of cultural awareness with sociodemographic factors (n = 1278)

Variable	Moderate knowledge (%)	High knowledge (%)	p		
Older age					
Yes	60.16	39.84	0.644		
No	58.88	41.12			
Educatio	nal level – university degree	à			
Yes	47.21	52.79	< 0.001		
No	63.31	36.69			
Proficien	cy in English or Russian				
Yes	58.19	41.81	0.007		
No	70.07	29.93			
Proficien	cy in more than one langua	ge			
Yes	58.12	41.88	0.003		
No	71.65	28.35			
Proficien	cy in more than two langua	ges			
Yes	54.40	45.60	0.007		
No	62.16	37.84			
Specializa	ation – anaesthesia and inte	ensive care			
Yes	56.96	43.04	0.392		
No	60.02	39.98			
Specializa	ation – community care				
Yes	57.89	42.11	0.653		
No	59.71	40.29			
Specializa	ation – operating theatre nu	ırsing			
Yes	55.93	44.07	0.571		
No	59.64	40.36			
Specializa	ation – mental health nursir	ıg			
Yes	59.39	40.61	0.981		
No	59.48	40.52			
Specializa	ation – emergency care				
Yes	53.33	46.67	0.393		
No	59.69	40.31			
Have no s	pecialization				
Yes	- 60.82	39.18	0.366		
No	58.33	41.67			
Advanced	l practice nursing				
Yes	58.33	41.67	0.366		
No	60.82	39.18			
Have mo	re than one specialization				
Yes	47.06	52.94	0.032		
No	60.17	39.83			
Level of t	he institution – primary bea	lthcare			
Yes	58.65	41.35	0.759		
No	59.68	40.32			
Level of t	he institution – secondary h	ealthcare			
Yes	61.72	38.28	0.326		
No	58.66	41.34			
Level of +	he institution – tertiary hea	Ithcare			
Yes	58.47	41 53	0.470		
No	60.65	39 35	し.マムブ		
Sector of the institution – private sector					
Yes	46.27	53.73	0.024		
No	10.27 60.20	39.80	0.024		
UNU	00.20	J 7.0U			

Table 4 (continued)

Variable	Moderate knowledge (%)	High knowledge (%)	р		
Sector of	Sector of the institution – public sector				
Yes	60.15	39.85			
No	39.02	60.98	0.007		
Work in a	an urban area				
Yes	57.94	42.06	0.010		
No	67.66	32.34			
Work in a	a rural area				
Yes	53.42	46.58	0.279		
No	59.83	40.17			
Work in a	a district centre				
Yes	75.18	24.82			
No	57.52	42.48	< 0.001		
Have less	s work experience				
Yes	57.47	42.53	0.140		
No	61.53	38.47			
Provide s	services to asylum seekers				
Yes	53.33	46.67	0.019		
No	62.18	37.82			
Provide s	ervices to Ukrainian refuge	es			
Yes	56.29	43.71	0.004		
No	65.29	34.71			

Table 5 Correlation of cultural knowledge with socio-
demographic factors (n = 1278)

Variable	Moderate knowledge (%)	High knowledge (%)	р
Older age	2		
Yes	88.33	11.67	
No	82.53	17.47	0.004
Education	nal level – University degree		
Yes	81.25	18.75	0.016
No	86.83	13.17	
Proficienc	y in English or Russian		
Yes	84.91	15.09	0.083
No	90.44	9.56	
Proficienc	y in more than one languag	e	
Yes	85.04	14.96	0.160
No	89.68	10.32	
Proficienc	y in more than two languag	es	
Yes	81.04	18.96	0.001
No	87.88	12.12	
Specializa	ation – Anaesthesia and inte	nsive care	
Yes	86.84	13.16	0.526
No	85.21	14.79	
Specializa	ation – Community care		
Yes	83.63	16.37	0.454
No	85.79	14.21	
Specializa	ation – Operating theatre nu	rsing	
Yes	86.44	13.56	0.834
No	85.46	14.54	
Specializa	ation – Mental health nursing	g	
Yes	84.77	15.23	0.752
No	85.63	14.37	

Table 5 (continued)

Variable	Moderate knowledge (%)	High knowledge (%)	p
Specializa	tion – Emergency care		
Yes	86.67	13.33	0.821
No	85.46	14.54	
Have no s	pecialization		
Yes	85.91	14.09	0.704
No	85.16	14.84	
Advanced	practice nursing		
Yes	85.16	14.84	0.704
No	85.91	14.09	
Have mor	e than one specialization		
Yes	80.88	19.12	0.266
No	85.76	14.24	
Level of t	ne institution – primary heal	thcare	
Yes	83.08	16.92	0.208
No	86.14	13.86	
Level of t	ne institution – secondary he	ealthcare	
Yes	85.46	14.54	0.980
No	85.52	14.48	
Level of t	ne institution – tertiary healt	hcare	
Yes	86.65	13.35	0.208
No	84.16	15.84	
Sector of	the institution – private sect	or	
Yes	71.64	28.36	0.001
No	86.27	13.73	
Sector of	the institution – public secto	or	
Yes	85.99	14.01	
No	70.73	29.27	0.006
Work in a	n urban area		
Yes	84.56	15.44	0.027
No	90.55	9.45	
Work in a	rural area		
Yes	84.93	15.07	0.887
No	85.54	14.46	
Work in a	district centre		
Yes	93.62	6.38	
No	84.49	15.51	0.004
Have less	work experience		
Yes	83.18	16.82	0.017
No	87.90	12.10	
Provide se	ervices to asylum seekers		
Yes	80.00	20.00	0.013
No	86.75	13.25	
Provide se	ervices to Ukrainian refugee	s	
Yes	83.79	16.21	0.073
No	87.85	12.15	

Discussion

We identified the level of cultural competence among nurses in Lithuania and the share of nurses with a moderate and high knowledge level of cultural competence. We also identified factors influencing the cultural competence of nurses in Lithuania: younger age, higher education, proficiency in foreign languages, proficiency in **Table 6** Correlation of cultural sensitivity with sociodemographic factors (n = 1278)

Variable	Moderate knowledge (%)	High knowledge (%)	р
Older age			
Yes	72.39	27.61	
No	77.60	22.40	0.033
Education	al level – University degree		
Yes	71.29	28.71	0.082
No	76.23	23.77	
Proficienc	y in English or Russian		
Yes	74.01	25.99	0.012
No	83.82	16.18	
Proficienc	y in more than one languag	e	
Yes	74.06	25.94	0.013
No	84.13	15.87	
Proficienc	y in more than two languag	es	
Yes	71.04	28.96	0.016
No	77.19	22.81	
Specializa	ition – Anaesthesia and inter	nsive care	
Yes	76.42	23.58	0.599
No	74.76	25.24	
Specializa	tion – Community care		
Yes	67.25	32.75	0.011
No	76.27	23.73	
Specializa	tion – Operating theater nu	rsing	
Yes	67.80	32.20	0.187
No	75.41	24.59	
Specializa	ition – Mental health nursing	3	
Yes	71.57	28.43	0.219
No	75.70	24.30	
Specializa	ition – Emergency care		
Yes	80.00	20.00	0.435
No	74.88	25.12	
Have no s	pecialization		
Yes	76.38	23.62	0.319
No	73.96	26.04	
Advanced	practice nursing		
Yes	73.96	26.04	0.319
No	76 38	23.62	0.019
Have mor	e than one specialization	20.02	
Yes	60.29	39 71	0 004
No	75.89	24.11	
Level of t	he institution – primary heal	thcare	
Yes	73.68	26 32	0 560
No	75.42	24 58	0.500
Level of t	he institution – secondary he	althcare	
Yes	77.68	22 32	0 1 9 6
No	74.12	25.88	0.150
Level of t	ne institution – tertiary healt	thcare	
Yes	74 31	25.69	0 503
No	75 94	24.06	0.505
Sector of	the institution - private cert	or	
Yes	61 19	38.81	0 007
No	75.83	24.17	0.007
110	10.00	∠ 1.17	

Table 6 (continued)

Variable	Moderate knowledge (%)	High knowledge (%)	p	
Sector of the institution – public sector				
Yes	75.69	24.31		
No	56.10	43.90	0.004	
Work in a	n urban area			
Yes	74.60	25.40	0.385	
No	77.50	22.50		
Work in a	rural area			
Yes	64.38	35.62	0.030	
No	75.71	24.29		
Work in a	district center			
Yes	85.71	14.29		
No	73.74	26.26	0.002	
Have less	work experience			
Yes	72.80	27.20	0.058	
No	77.39	22.61		
Provide s	ervices to asylum seekers			
Yes	70.00	30.00	0.035	
No	76.96	23.04		
Provide s	ervices to Ukrainian refugee	25		
Yes	72.48	27.52	0.014	
No	79.22	20.78		

English and/or Russian, having a specialization, working in the private healthcare sector, working in the urban/ rural areas, shorter work experience, and experience with asylum seekers and refugees from Ukraine. These findings could help to improve nurses' cultural competence.

Level of cultural competence among nurses in Lithuania

Our study provides an in-depth evaluation of cultural competence among nurses in Lithuania, revealing a complex and nuanced landscape that has significant implications for healthcare delivery in a rapidly diversifying society. Overall, 97.2% of nurses exhibited moderate cultural competence, with an aggregate NCCS score of 102.88±23.35 (mean domain score 3.51±0.07 on a 5 point scale). Notably, cultural awareness emerged as the most substantial domain (mean 3.94 ± 0.16), whereas cultural knowledge (3.30 ± 0.23) and cultural skills (3.22 ± 0.28) lagged. This pattern indicates that while nurses are generally sensitive to cultural differences and are aware that their personal beliefs may differ from those of patients, there remains a substantial gap in the depth of their theoretical understanding and practical application necessary to deliver culturally nuanced care.

When compared with international literature, our findings are both corroborative and instructive. Research from countries such as Poland, the Czech Republic, Slovakia, China, Sweden, and Korea consistently shows that nurses often score highest in cultural awareness but struggle with the domains of cultural knowledge and skills [15–22, 44]. For instance, studies

Table 7	Correlation	of cultural	skills with	socio-dem	ographic
factors (r	n = 1278)				

Variable	Moderate knowledge (%)	High knowledge (%)	р	
Older age	2			
Yes	86.24	13.76		
No	90.21	9.79	0.029	
Educational level – University degree				
Yes	84.26	15.74	0.013	
No	89.50	10.50		
Proficienc	y in English or Russian			
Yes	87.53	12.47	0.023	
No	94.16	5.84		
Proficiency in more than one language				
Yes	87.64	12.36	0.044	
No	93.70	6.30		
Proficienc	y in more than two languag	es		
Yes	84.65	15.35	0.004	
No	90.16	9.84		
Specializa	ation – Anaesthesia and inter	nsive care		
Yes	92.17	7.83	0.041	
No	87.38	12.62		
Specializa	ation – Community care			
Yes	85.38	14.62	0.211	
No	88.69	11.31		
Specializa	ation – Operating theater nu	rsing		
Yes	84.75	15.25	0.393	
No	88.41	11.59		
Specializa	ation – Mental health nursing	g		
Yes	85.28	14.72	0.160	
No	88.79	11.21		
Specializa	ation – Emergency care			
Yes	88.89	11.11	0.891	
No	88.22	11.78		
Have no s	pecialization			
Yes	88.10	11.90	0.886	
No	88.36	11.64		
Advanced	practice nursing			
Yes	88.36	11.64	0.886	
No	88.10	11.90		
Have mor	e than one specialization			
Yes	79.41	20.59	0.020	
No	88.74	11.26		
Level of the institution – primary healthcare				
Yes	86.09	13.91	0.220	
No	88.81	11.19		
Level of t	Level of the institution – secondary healthcare			
Yes	87.50	12.50	0.622	
No	88.51	11.49		
Level of the institution – tertiary healthcare				
Yes	89.13	10.87	0.286	
No	87.20	12.80		
Sector of the institution – private sector				
Yes	77.61	22.39	0.006	
No	88.83	11 17	0.000	

Table 7 (continued)

Variable	Moderate knowledge (%)	High knowledge (%)	р	
Sector of the institution – public sector				
Yes	88.74	11.26		
No	73.17	26.83	0.002	
Work in an urban area				
Yes	87.64	12.36	0.120	
No	91.50	8.50		
Work in a rural area				
Yes	87.67	12.33	0.876	
No	88.28	11.72		
Work in a district centre				
Yes	94.29	5.71		
No	87.50	12.50	0.019	
Have less work experience				
Yes	86.59	13.41	0.063	
No	89.95	10.05		
Provide services to asylum seekers				
Yes	81.90	18.10	0.004	
No	89.17	10.83		
Provide services to Ukrainian refugees				
Yes	87.66	12.34	0.528	
No	88.95	11.05		

conducted in Polish university hospitals reported overall competence scores of 145.20 ± 20 , with subscale scores for cultural awareness, skills, and knowledge being 3.98, 3.14, and 3.42, respectively [20, 22]. Although these values are somewhat higher than those found in our study, the relative distribution across subscales is strikingly similar, suggesting that the challenge of translating awareness into actionable skills is a pervasive issue. Conversely, research from Korea has documented significantly lower scores in overall cultural competence (with cultural competence and cultural skills scoring as low as 2.66 ± 0.62 and 2.50 ± 0.81 , respectively) despite comparable levels of cultural awareness (4.04 ± 0.57) [18]. Qualitative studies in Sweden have further underscored high levels of cultural awareness.

In contrast, studies among Austrian nurses have reported an overall cultural competence score of 389 ± 0.48 , with particularly high ratings in cultural awareness (4.42 ± 0.45) [17, 28]. Moreover, a multicountry survey demonstrated that nurses in highly multicultural settings such as northern and southern European countries consistently attain higher scores across all cultural competence subscales than their counterparts in more homogenous regions of central Europe [19]. These international comparisons underscore the notion that a country's degree of multicultural exposure and the robustness of its educational and training frameworks are critical determinants of cultural competence in nursing.

Correlation of nurses' cultural competence with sociodemographic characteristics

Beyond these cross-national comparisons, our study identified several socio-demographic and professional factors that appear to influence cultural competence in the Lithuanian context. Younger nurses, those with higher formal education and proficiency in foreign languages (notably English and Russian) and those pursuing additional specializations consistently demonstrated higher competence across multiple domains. Intriguingly, nurses with shorter work experience and those employed in the private healthcare sector-often operating in urban and rural settings-scored higher on cultural competence measures. These findings diverge from some prior studies, which have traditionally associated older age and extensive work experience with higher levels of cultural competence [15, 20, 22, 28]. We postulate that these discrepancies may reflect the evolving nature of nursing education in Lithuania, where an increased emphasis on intercultural communication has better equipped newer graduates to navigate the complexities of multicultural care. The dynamic educational landscape, including exchange programs and the integration of diverse cultural perspectives in academic settings, likely plays a pivotal role in shaping these outcomes.

An additional layer of complexity emerged when examining the impact of direct clinical exposure to diverse patient populations. Nurses with experience in caring for asylum seekers, a group characterized by a wide array of cultural, religious, and linguistic backgrounds, demonstrated significantly higher cultural competence than those whose patient populations predominantly consisted of Ukrainian refugees. This observation suggests that the breadth of cultural diversity encountered in clinical practice can enhance cultural skills and knowledge. The disparate findings also echo earlier research showing that direct, varied intercultural interactions foster a deeper level of competence [1-5, 40]. It is plausible that the broader spectrum of cultural challenges presented by asylum seekers compels nurses to develop more adaptive communication strategies and culturally responsive care practices compared to the relatively more homogeneous experiences with refugees from culturally similar backgrounds.

Furthermore, our study reveals that Lithuania's lack of formal cultural competence training may contribute significantly to the deficiencies observed in theoretical and practical knowledge. The absence of structured training programs, combined with a workforce comprised mainly of nurses with non-university qualifications, highlights a critical gap in initial education and ongoing professional development. In contrast, international studies have demonstrated that systematic cultural competence training, whether integrated into undergraduate curricula or delivered through in-service programs, is associated with markedly improved outcomes in nurse-patient interactions and overall care quality [13, 16-20, 24-30]. This evidence strongly supports the need for policy-driven reforms to embed comprehensive cultural competence training into all levels of nursing education and practice. Our study not only delineates the current state of cultural competence among Lithuanian nurses but also offers valuable insights into the factors that shape this critical attribute. The moderate overall competence and pronounced deficits in cultural knowledge and skills signal an urgent need for targeted educational reforms and enhanced clinical training programs. These initiatives are essential for bridging the gap between cultural awareness and the practical application of culturally sensitive carea gap that, if left unaddressed, may perpetuate health disparities in an increasingly multicultural society. Given the dynamic shifts in patient demographics driven by migration, future research must adopt longitudinal designs to evaluate the sustained impact of these interventions on patient outcomes. Such work will provide a robust base of evidence to guide further refinements in educational strategies and clinical policies, ultimately setting a new benchmark for culturally competent care in Lithuania and beyond.

The findings of this study underscore an imperative for transformative change in nursing education and clinical practice. Despite an overall moderate level of cultural competence, the evident deficits in cultural knowledge and skills have profound implications for effective patient communication, trust-building, and, ultimately, the quality of care delivered to culturally diverse populations. These gaps not only jeopardize patient satisfaction and safety but also risk exacerbating existing health disparities among immigrant and minority groups. In response, a multifaceted, evidence-based strategy is essential-one that integrates innovative educational reforms, continuous professional development, robust mentorship programs, international collaboration, and comprehensive future research to create a sustainable model for cultural competence in nursing.

Strengths and limitations of this study

This study is the first nationwide evaluation of cultural competence among nurses in Lithuania, encompassing a broad spectrum of healthcare settings rather than focusing on isolated subgroups. It distinguishes between moderate and high levels of competence. It identifies key socio-demographic factors such as younger age, higher education, proficiency in foreign languages, and specialized training associated with enhanced cultural competence. These insights provide a valuable foundation for refining educational curricula and targeted training initiatives for nursing students and practicing professionals.

However, several limitations must be acknowledged. First, although the study attempted to capture the overall landscape, the sample predominantly represents nurses from urban areas, which may limit the generalization of the findings to rural contexts. Second, the pronounced gender imbalance, with a tiny proportion of male nurses, could skew the results and preclude robust gender-based analyses that might yield additional insights. Third, the study did not evaluate the impact of formal cultural competence training or incorporate ethical perspectives into the assessment, thereby narrowing the scope of our analysis. Finally, an online survey method introduces potential biases, such as social desirability and self-selection bias, which may inflate self-reported competence levels. Future research should address these limitations to deepen our understanding further and enhance the development of culturally competent nursing practice.

Recommendations

Improving study programmes. Academic institutions should include modules on cultural competence into both undergraduate and postgraduate curricula using experiential learning methods such as simulations, roleplaying, and case studies. These interactive approaches allow students to engage with realistic scenarios that mirror the complexities of multicultural patient care, thereby fostering a deeper, more intuitive understanding of cultural dynamics.

In-service training programs. Regular, structured training sessions should be designed to update practicing nurses on the latest evidence-based practices in cultural competence, offering opportunities for hands-on learning and real-time feedback. These initiatives will enhance the immediate quality of care and promote a culture of continuous improvement and professional development. Moreover, integrating these training programs into routine performance evaluations and professional advancement criteria can reinforce their importance and ensure that cultural competence becomes integral to nursing practice.

Mentorship initiatives. By pairing experienced, culturally adept nurses with less experienced colleagues, healthcare organizations can facilitate the transfer of practical skills and tacit knowledge that are often not captured in formal educational settings. These mentorship programs provide a supportive framework for ongoing professional growth, encouraging the exchange of best practices and cultivating a reflective, adaptive approach to patient care. Such programs should be designed to be both formal and dynamic, incorporating regular evaluations, goal-setting sessions, and opportunities for mentees to engage in collaborative problem-solving. The long-term benefits of mentorship include enhanced job satisfaction, improved patient outcomes, and the development of a resilient, culturally competent workforce.

International collaboration. Forming strategic partnerships with global nursing institutions and participating in international exchange programs can expose nurses to a broad spectrum of cultural practices and innovative training methods. Workshops, conferences, and collaborative research initiatives on an international scale enrich individual competencies and contribute to the development of standardized, evidence-based frameworks for cultural competence training. By leveraging global expertise and sharing best practices, nursing education and clinical practice can be continuously refined to meet the evolving demands of multicultural healthcare environments. Such international engagements also provide a platform for benchmarking progress and fostering a unified, global approach to cultural competence in nursing. It is therefore recommended that health care institutions provide a favourable environment for nurses to interact internationally.

In summary, the implications of our findings call for a comprehensive, integrated approach to reforming nursing education and clinical practice. By embracing innovative, evidence-based training programs, instituting continuous professional development and mentorship initiatives, fostering international collaboration, and rigorously pursuing future research, we can establish a new benchmark for cultural competence that is both highly impactful and widely citable. These efforts will ultimately contribute to more equitable, effective, and compassionate healthcare for culturally diverse populations, setting a transformative precedent for the global nursing community.

Conclusion

In this nationwide survey, Lithuanian nurses demonstrated moderate cultural competence, with notably higher scores in cultural awareness than in cultural knowledge or skills. Enhanced competence was significantly associated with younger age, university education, foreign language proficiency, and specialized training. Nurses working in private healthcare settings and those with experience caring for asylum seekers also exhibited superior competence. These findings underscore the need for targeted educational and training interventions to bridge deficits in cultural knowledge and skills, particularly among older nurses and those in the public sector lacking advanced linguistic and specialized qualifications. Addressing these gaps is essential for optimizing culturally sensitive care and reducing health disparities in a diversifying society.

Abbreviations

NCCS	Nursing Cultural Competence Scale
NCCS-CA	Cultural Awareness
NCCS-CK	Cultural Knowledge
NCCS-CSe	Cultural Sensitivity
NCCS-CS	Cultural Skills

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Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (https://www.icmje.org/recommendations/): (1) Substantial contributions to the conception or design of the work or the acquisition, analysis, or interpretation of data for the work, (2) Drafting the work or revising it critically for important intellectual content, (3) Final approval of the version to be published, and (4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The design and completion of this study were guided by the Declaration of Helsinki [45], the Guidelines for the Assessment of Compliance with Research Ethics approved by the Office of the Ombudsman for Academic Ethics and Procedures of the Republic of Lithuania, and the following ethical principles: trustworthiness, integrity, respect, and accountability [46]. This study has been approved by the Ethical Committee of the Department of Nursing of the Institute of Health Sciences of the Faculty of Medicine of Vilnius University (24.3.2022, No. (1.3)150000-KP-47). Written permission has been obtained from the author of the NCCS to translate and use the questionnaire in Lithuanian. All participants were informed about the aim of the study, that their involvement in the research was entirely voluntary, and that they could withdraw from participation at any time. Written consent was obtained from each participant before the study was conducted. All questionnaires were anonymous, and no names or identifying details were asked. Paper questionnaires were distributed and collected in sealed envelopes to ensure confidentiality.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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