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ORIGINAL PAPER

Cross-cultural adaptation of the Caring Ability Inventory and the caring ability of Polish nurses

Michał Machul[1], Renata Markiewicz[2], Beata Dobrowolska[1]

[1]*Department of Holistic Care and Nursing Management, Medical University of Lublin, Poland*
[2]*Department of Neurology, Neurological Nursing and Psychiatry, Medical University of Lublin, Poland*

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Abstract

Aim: The aim of the study was threefold: 1) to validate and analyze the psychometric properties of the Polish version of the Caring Ability Inventory (CAI-PL); 2) to analyze the impact of the motivation for choosing a career in nursing on the ability to provide care; and 3) to determine whether previous experience in providing care as part of volunteer work affected respondents' caring ability. *Design:* A cross-sectional study. *Methods:* The study was performed in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology guidelines. Data were collected using the online form between May and July 2021. Construct validity and reliability of the instrument were tested using SPSS 25.0. *Results:* A satisfactory level of CAI content validity was observed; the CAI-PL was composed of 36 items and the Cronbach's alpha coefficient for the entire scale was 0.715, confirming high internal consistency. The mean score obtained by respondents on the Caring Ability Inventory was 189.55. *Conclusion:* The study showed satisfactory psychometric properties of the Polish version of the Caring Ability Inventory, confirming its potential to measure nurses' level of caring ability – both in education and research.

Keywords: caregivers, caring abilities, nursing care, Polish nurses, validation.

Introduction

Care is considered a fundamental value and an integral part of professional nursing practice (Leininger, 1986; Ślusarska et al., 2008) as well as a key notion in contemporary conceptions of nursing theory (Clarke et al., 2009; Leininger, 1991; Swanson, 1991; Watson, 1996). It is manifested through the adoption of a humane attitude towards a patient, as part of which the nursing staff respond to the patient's needs using their knowledge and skills (Nkongho, 1990). An integral part of professional nursing care is interpersonal interaction, demonstrated in the processes and activities initiated by a caregiver to benefit the person they are caring for (Simmons & Cavanaugh, 2000). These actions are reflected in the improvement of the patient's well-being – not only in the biological sphere, but also in psychological, social, and spiritual aspects (Richardson, 2012; Turkoski, 2002). A care recipient requires from the healthcare system not only an accurate diagnosis or modern treatment, they also require comfort and spiritual and psychological support (Connolly & Timmins, 2021; Ullrich et al., 2021). Patients' autonomy and ability to make choices should be prioritized and guide the interaction and content of a caring relationship (Albinsson et al., 2021; Dahlberg, 2003). The essence of the relationship and care can be achieved through the meeting of a patient and a nurse, primarily on an existential level. This means meeting the whole person, establishing a more profound relationship based on trust and the sharing of experiences, expectations, or beliefs (Dahlberg et al., 2009; Erikkson, 2014). Such a relationship not only contributes to faster recovery, but also reduces the risk of aggravated illness and promotes well-being and a sense of independence in a patient (McCormack & McCance, 2006). It may also restore life balance and alleviate suffering in the person's physical and existential dimensions (Benner, 2000; Erikkson, 2015). A caring nurse-patient relationship is crucial to providing effective care (Manley et al., 2019; Turkel & Ray, 2000; Watson, 1985), and the quality of this relationship contributes to greater satisfaction with assessments of care by the patient, their caregivers, and family members (Pratt et al., 2021). With the increasing prevalence of unfinished

Corresponding author: Michał Machul, Department of Holistic Care and Nursing Management, Medical University of Lublin, ul. Staszica 4/6, 20-081 Lublin, Poland; email: michal.machul@umlub.pl

or rationed care and threats to patient safety and quality of nursing care in mind (Francis, 2013; Hessels et al., 2019; Liu et al., 2018; Willis et al., 2018; Zeleníková et al., 2020), many countries have initiated a discussion on the lost caring values in nurses' attitudes towards patients, particularly in terms of compassion and kindness (Cho et al., 2020; Francis, 2010, 2013; Harvey et al., 2018). Moreover, there is a lack of understanding of the concept of unfinished care among nurses, and it seems necessary to familiarize nursing staff with this concept and help them understand its meaning to reduce the occurrence of this phenomenon in the clinical practice of nurses (Kalánková et al., 2019; Zeleníková et al., 2019). To deepen the understanding of this problem and the importance of the caregiver-patient relationship, we need to assess and analyze the caring ability of healthcare personnel. Based on this knowledge, we can identify areas for intervention and plan strategies (Nkongho, 1990) that will contribute to the enhanced development of nurses' caring ability and, at the same time, to safe and quality nursing care that is respectful and compassionate towards the patient (Kitson, 2018). In addition, a better understanding of nurses' caring ability and the identification of its predictors are essential to the development of practical and targeted training programs or the revision of pre-graduate level curricula to improve nurses' ability to care for patients (Xu et al., 2021). Polish nurses' abilities in this area have not been assessed previously, and there was no tool available (in Polish) to investigate this aspect of nursing. The aims of the present study were to measure and analyze the caring ability of nursing students and active nurses and to perform a cross-cultural adaptation of the Caring Ability Inventory (CAI).

Aim

The aim of the study was threefold: 1) to validate and analyze the psychometric properties of the Polish version of the CAI; 2) to analyze the impact of the motivation for choosing a career in nursing on the ability to provide care; and 3) to determine whether previous experience in providing care as part of volunteer work affected respondents' caring skills.

Methods

Design

A cross-sectional study was conducted in Poland among 379 nursing students and professionally active nurses (i.e., currently employed as a nurse and directly involved in patient care in a clinical setting) from May 2021 to July 2021. The study was conducted according to Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (von Elm et al., 2007).

Sample

A convenience sampling method was used, and nursing students who had completed clinical education and professionally active nurses directly involved in patient care were recruited for the study. The following inclusion criteria were used: 1) informed and voluntarily given consent to participation in the study; 2) third-year undergraduate nursing students who had participated in a series of clinical placements or registered nurses directly involved in patient care; 3) access to the internet. There are 234,665 nurses employed in Poland. The largest age cohort among Polish nurses is the group aged 51–60 years, including 84,444 nurses and comprising 36% of the workforce. It is also worth noting that as many as 68,906 nurses work in the profession despite being eligible for retirement, constituting 29.36% of the workforce. The average age of nurses in Poland is 53.7 years. Statistically, a female nurse has a lower life expectancy than the average Polish woman, with an average age at time of death of 62.2 years compared to 81.8 years for the average Polish woman. Regarding the structure of education, the number of nurses with secondary education is 209,242; Bachelor's (BA) degree 62,259; and Master's (MA) degree 41,712 (Main Chamber of Nurses and Midwives, 2022).

Data collection

Instruments

The questionnaire consisted of two parts:

1) The Caring Ability Inventory (CAI), developed by Nkongho (Nkongho, 1990), is based on Mayeroff's concept of caring (Mayeroff, 1972) – involving four assumptions about caring: a) caring is multidimensional; b) all people have the ability to care; c) caring can be learned; d) caring is quantifiable. The scale consists of three dimensions – knowledge (14 items), courage (13 items) and patience (ten items) – with a total of 37 items. The scale uses a seven-point Likert scoring method, ranging from 1 "strongly disagree" to 7 "strongly agree". The total score range is 37–259, with a higher score indicating higher caring ability. Scores below 203.1 indicate a low level, 203.1–220.3 a medium level, and scores above 220.3 a high level of caring ability. The Cronbach's α value of the original version of the scale is 0.84 (Nkongho, 1990).

The process of cultural adaptation and translation of the CAI tool was conducted according to International Test Commission guidelines through translation, translation synthesis, and back-translation. Two independent English language specialists translated the instrument with the prior agreement of the scale author (correspondence with the author has been retained on file). In the next stage, the two translations were combined into a single version. The translators met the requirement of fluency in English and were experienced in translating and validating research instruments. The prepared scale was then back translated. The grammatical form of the statements, the category of responses, their number, their order of occurrence and the questionnaire instructions were retained. The developed versions, together with the original version of the scale, were analyzed by a team of experts who prepared the Polish version of the tool.

2) In the part concerning socio-demographic data, the author's own questionnaire was used to obtain information on gender, age, education, religious affiliation, place of residence, marital status, material situation, type of university attended by the respondent, and mode of study. In addition, the questionnaire contained questions about the respondent's motives for choosing nursing studies, membership in student organizations (i.e., academic and educational organizations, student nursing associations), volunteering, the importance of faith, and their professional situation.

The study was conducted in Poland in 2021. When planning the sample power, the ratio 1:10 (one item per ten study participants) was adopted (Boateng et al., 2018), meaning a minimum of 370 respondents. Due to the coronavirus pandemic and government restrictions on face-to-face contact, study material was collected via an online questionnaire using Survio software. Survio meets the ISO 27001 international information security standard and is fully compliant with the processing of personal data in accordance with the German Data Protection Act (the strictest such law in the European Union). Each questionnaire was secured with an international security certificate with extended validation (Organization Validated SSL Certificate). Only one researcher could access the questionnaire data, having first logged into the user account on the Survio platform. This ensured the anonymity and confidentiality of the study. Data collection using the online questionnaire followed Gupta's recommendations on how to maintain the reliability of results. Respondents were recruited through invitations posted on blogs, discussion forums, and social networks dedicated to health sciences and nursing. In addition, email invitations were sent to major nursing education centers. Potential study participants were asked to complete a questionnaire via a direct web link included in the invitation. The email also contained information on the purpose and course of the study, contact details in case of any questions and a statement of informed and voluntary consent to participation in the study. Questionnaire completion was taken as consent. Respondents were not required to provide their personal information. Each respondent could only take part in the study once. The questionnaire was delivered to 877 respondents with 379 (43.2%) questionnaires returned.

Data analysis

Statistical analysis was performed (using descriptive methods) with the IBM SPSS Statistics software package (Version 25). Frequencies of variables were estimated as standard deviation and mean percentages. The reliability of the tool was assessed with Cronbach's alpha coefficient by testing the internal consistency of the scale. The adequacy of the sampling was checked with the Kaiser-Meyer-Olkin test, a coefficient comparing partial correlations with bivariate correlation coefficients. Theoretical significance was assessed through an exploratory factor analysis conducted with a principal component method, using a simple Oblimin rotation with Kaiser normalization. The reliability of the tool was estimated based on the discriminant power values of the items forming the highlighted dimensions. Correlations between variables, depending on the level of measurement of the variables, were assessed using Pearson's r or Spearman's rho coefficient. The assessment covered correlations between the CAI scale and selected socio-demographic and educational variables. The p-values obtained from multiple testing were corrected using Bonferroni's method. A significance level of $p < 0.05$ was adopted, indicating the presence of statistically significant differences or correlations.

Results

Study participants

The study involved a total of 379 respondents (Table 1), at least ten times more than the 37 items included in the CAI; therefore, the sample size was deemed adequate for the factor analysis (Streiner et al., 2015). Most study participants were female (95.3%), and the respondents' average age was 38.4 years (SD = 11.34). A considerable majority of respondents declared themselves to be Christians (88.1%).

Table 1 General characteristics of the sample (n = 379)

Variables		n	%	mean	SD
Age				38.4	11.34
Gender	female	361	95.3		
	male	18	4.7		
Place of residence	urban area	246	64.9		
	rural area	133	35.1		
Civil status	single	157	41.4		
	married	131	34.6		
	in cohabitation	72	19.0		
	divorced	14	3.7		
	widowed	5	1.3		
Self-assessed financial situation	fairly good	297	78.3		
	definitely good	70	18.5		
	fairly bad / bad	12	3.2		
Year and mode of studies	3rd-year student – BA programme	138	36.4		
	1st-year student – MA programme	121	31.9		
	2nd-year student – MA programme	120	31.7		
University status	public university	281	74.1		
	non-public university	98	25.9		
Type of university	medical university	166	43.8		
	other than medical	119	31.4		
	higher vocational school	94	24.8		
Mode of education	full-time programme	223	58.8		
	part-time programme	156	41.2		
Is the respondent employed?	yes, as a nurse	224	58.9		
	yes, on a casual basis in a profession other than nursing	35	9.2		
	no	121	31.9		
Involvement in volunteering	yes	18	4.7		
	no	361	95.3		

BA – bachelor; MA – master; SD – standard deviation

Exploratory factor analysis

With an unforced number of factors, ten Eigenfactors were extracted, but only three explained more than 5% of the variance. A three-factor solution was adopted, in line with the original version of the questionnaire. Together they explained 35.22% of the variance. The value of the Kaiser-Meyer-Olkin Sampling Adequacy Test was 0.858, and the Bartlett's Test of Sphericity yielded a significant result (χ^2 = 6017.634; df = 351; p < 0.001). The factor analysis met the Kaiser criterion (three loadings above a value of one). The analyses conducted showed mostly medium to high values for the factor loadings of all items forming individual subscales. Factor 1 had an Eigenvalue of 7.07, explaining 19.11% of the variance. The "Knowledge" factor consisted of 13 items. Factor 2, "Courage", consisted of 12 items, explaining 9.22% of the variance; its Eigenvalue was 3.41. Factor 3, "Patience", had an Eigenvalue of 2.55 and explained 6.90% of the variance; it consisted of 11 items from the questionnaire (Table 2).

Statistical analysis retained three primary factors: 1) "Knowledge"; 2) "Courage"; and 3) "Patience". As per the assumption that significant factor loadings must have a value above 0.3, items with non-significant factor loadings were excluded. Since Item 6 did not obtain the required value of more than 0.3 (0.294), the Polish version of the CAI scale was composed of 36 items. Further analysis of the internal consistency was performed on the new configuration of the instrument's dimensions.

Reliability

The Cronbach's alpha coefficient for the entire scale was 0.715. The factor with the lowest α value was "Patience" (0.716), while the highest α value was recorded for the "Knowledge" factor (0.815). The "Courage" factor obtained a value of 0.813. Correlations between the subscales were statistically significant (p < 0.001) and high. In addition, the subscales correlated highly with the total score (Table 3). All factor scores met Nunnally's criterion: Cronbach's alpha coefficient > 0.7. Item-total correlation values were higher than 0.3.

Nurses' motivation to choose nursing as a career in relation to caring ability

Nursing students who chose to study to have the opportunity to work with people achieved a higher overall CAI score (Z = -4.587; p < 0.001) and

Table 2 Explorative factor analysis of the CAI-PL

Items	Knowledge	Courage	Patience
34	0.599		
26	0.596		
33	0.566		
3	0.562		
22	0.549		
35	0.525		
9	0.509		
24	0.507		
7	0.488		
27	0.483		
31	0.466		
30	0.420		
2	0.353		
12		0.678	
11		0.660	
16		0.657	
32		0.652	
15		0.623	
4		0.613	
13		0.568	
25		0.516	
14		0.441	
28		0.429	
29		0.406	
8		0.389	
18			0.659
36			0.600
21			0.563
20			0.540
17			0.515
19			0.504
1			0.477
37			0.423
5			0.411
23			0.387
10			0.360

CAI – Caring Ability Inventory. Item numbers are from the original version of the CAI.

Table 3 Relationship between the subscales

	Knowledge	Courage	Patience	Total score
Knowledge	-			
Courage	0.347***	-		
Patience	0.460***	0.099	-	
Total score	0.814***	0.754***	0.600***	-

*** *< 0.001*

higher scores for CAI subscales of "Knowledge" ($Z = -4.012$; $p < 0.001$), "Courage" ($Z = -4.108$; $p < 0.001$) and "Patience" ($Z = -1.978$; $p = 0.048$). The CAI "Knowledge" subscale showed a significant relationship ($Z = -2.606$; $p = 0.009$) with the experience of helping others through volunteering in the past. The same respondents obtained a significantly higher overall CAI score ($Z = -2.127$; $p = 0.033$). In all parts of the scale and in the overall score, respondents who chose nursing because the profession provided the opportunity to help other people obtained statistically significantly higher scores – "Knowledge" ($Z = -4.262$; $p < 0.001$), "Courage" ($Z = -3.700$; $p < 0.001$), "Patience" ($Z = -2.305$; $p = 0.021$), CAI-PL ($Z = -4.789$; $p < 0.001$) (Table 4).

Table 4 Relationship between demographic and other selected variables and CAI

Variables		Yes		No		Statistic	
		mean	SD	mean	SD	H	p-value
I chose nursing to have the opportunity to work with people.	**Knowledge**	72.03	8.64	67.96	8.61	-4.012	< 0.001
I chose nursing to have the opportunity to help people.		71.00	8.46	66.86	8.69	-4.262	< 0.001
I am involved in volunteer work.		75.17	9.59	68.80	8.66	-2.606	0.009
I chose nursing because I hope to find a job easily.		66.45	8.74	70.38	8.55	-3.896	< 0.001
I chose nursing to have the opportunity to work with people.	**Courage**	60.20	9.56	55.58	10.55	-4.108	< 0.001
I chose nursing to have the opportunity to help people.		58.60	10.46	54.83	10.15	-3.700	< 0.001
I am involved in volunteer work.		58.78	9.99	56.78	10.51	-1.036	0.300
I chose nursing because I hope to find a job easily.		55.84	9.72	57.37	10.81	-1.834	0.067
I chose nursing to have the opportunity to work with people.	**Patience**	64.49	6.06	63.22	6.20	-1.978	0.048
I chose nursing to have the opportunity to help people.		64.21	6.03	62.83	6.28	-2.305	0.021
I am involved in volunteer work.		65.67	5.16	63.47	6.21	-1.296	0.195
I chose nursing because I hope to find a job easily.		63.08	6.16	63.82	6.18	-1.130	0.258
I chose nursing to have the opportunity to work with people.	**CAI**	196.72	18.73	186.76	18.06	-4.587	< 0.001
I chose nursing to have the opportunity to help people.		193.80	18.58	184.53	17.77	-4.789	< 0.001
I am involved in volunteer work.		199.61	16.93	189.04	18.74	-2.127	0.033
I chose nursing because I hope to find a job easily.		185.37	19.53	191.58	18.08	-2.706	0.007

CAI – Caring Ability Inventory; SD – standard deviation; H – Kruskal-Wallis; p < 0.05

Discussion

The study analyzed Polish nursing students' level of care-related skills, along with the psychometric properties of the Polish version of the Caring Ability Inventory. The results showed that the psychometric properties of the CAI-PL are satisfactory and that the scale can be used to assess the level of care-related skills of Polish nurses, in addition to national and international studies. The Polish version of the CAI exhibited a three-factor structure that explained 35.22% of variation. Statistical analysis of the CAI-PL enabled the replication of three primary factors and 36 items. The value of Cronbach's alpha coefficient for the CAI-PL was 0.715, suggesting that the tool is consistent and the items are correlated. The value of Cronbach's alpha for the original version of the scale is 0.84 (Strickland & Diloris, 2003). Cronbach's alpha values for other validations range from 0.74 for the Persian version (Mohammadi et al., 2017), 0.78 for the Portuguese version (Rosanelli et al., 2016) and 0.84 for the Chinese version (Xu & Liu, 2008).

In the study, the caring ability of Polish nurses and nursing students was found to be low. Students obtained a result of 186.70 ($p < 0.032$). The results are similar to those obtained in studies focusing on Portuguese and Chinese nursing students (Hu et al., 2022; Rosanelli et al., 2016; Wang et al., 2020). Slightly higher scores were obtained by students from America (Cheng et al., 2017), although significantly lower than those of students in Brazil (Coppetti et al., 2019). MA-level nursing students achieved scores that were statistically significantly higher on the "Knowledge" ($p < 0.021$) and "Courage" ($p < 0.019$) subscales, as well as on the overall scale ($p < 0.032$). This correlation can be interpreted as being the result of the educational process. During clinical classes, students encounter the realities of professional nursing regarding both technical and emotional care (Murphy et al., 2009). Having more nursing experience is directly correlated with higher levels of caring ability, as also shown in Yuh-Shiow and Gaber's study, which compared caring behaviors between nursing students and nurses practicing in the profession (Gaber et al., 2022; Li et al., 2016). Research findings indicate that practical training of nursing students in a clinical setting is important for developing caring behavior in students (Akansel et al., 2021; Lee et al., 2002; Mlinar, 2010). Patient care, over time, allows students to acquire not only practical skills in the technical aspect of care, but also contributes to the acquisition of skills in emotional aspects of care – empathizing, soothing, providing hope or showing acceptance and individual attention to each patient (Dimoula et al., 2019; Gözütok Konuk & Tanyer, 2019; Henoch et al., 2018; Warshawski et al., 2018). The opportunity to improve students' caring skills throughout the educational process justifies the claim that the Polish nursing education system fulfils its requirements. It should be emphasized, however, that both third-year undergraduate / BA students and second-year graduate / MA students did not obtain values within the "high caring competence" range. This conclusion is quite relevant in terms of planning future curricula. It is worth noting that no statistical relationship was found between how professionally

the respondents performed their work and the level of their caring ability ($p = 0.650$). Despite the positive aspects of the clinical experience that professional conduct entails, there is a risk that in the course of work – without a qualified mentor – nurses will adopt various negative habits and attitudes of senior colleagues, perpetuating negative attitudes towards patients in general (Maze, 2006).

In the study, respondents who chose to study to have the opportunity to work with ($p < 0.001$) and help ($p < 0.001$) other people displayed significantly higher statistically significant scores. Those who had been involved in volunteering also obtained higher scores (CAI-PL = 199.61) than those who had not previously had such experience (CAI-PL = 189.04). Some studies confirm that nursing students' perceptions of care and their level of care delivery depend on their attitudes and previous life experiences (Birimoğlu & Ayaz, 2015; Gözütok Konuk & Tanyer, 2019). In Albinsson's study, students who had hands-on nursing experience before entering college defined the essence of nursing care more accurately. They considered it a caring relationship based on love, and defined care as a dimension of technical and emotional caring actions based on a reflective individual approach to the patient, resulting from their attitude, life experience, and acquired knowledge (Albinsson et al., 2021). In our study using the CAI-PL questionnaire, nursing students who chose to study to help others obtained statistically significantly higher scores (193.80) than those who chose to study for other reasons (184.53). Studies reported by numerous authors have shown that nursing students who chose the profession in order to help others are characterized by high levels of altruism and empathy, (qualities which are closely related to a greater tendency to exhibit caring behavior) and are more likely to help correctly identify patients' problems (Arpacı & Özmen, 2014; Çiftçi et al., 2022; Sen et al., 2012). Although students who described themselves as willing to help others obtained higher scores than those who did not, it should be remembered that in general scores on the CAI-PL scale were low. These findings suggest that changes should be made and implemented in nursing education programs to improve students' empathic tendencies, resulting in higher levels of caring ability.

In the CAI-PL survey, respondents who chose to study nursing with the hope of easily finding work in the future obtained statistically lower scores on the "Knowledge" subscale ($p < 0.001$) and the overall scale ($p < 0.007$) than other students. Similar results were obtained in a study of Chinese students on work experience (Cai & Jiang, 2020; Hu et al., 2022). This study found that students studying nursing to get a good job exhibited passive attitudes toward patient care. In 2021, Poland introduced legislation raising the minimum wage for nurses working in the healthcare system, resulting in a nearly 250% increase in the minimum wage over 2017–2022. Every year the number of universities training nursing students increases, as does the number of students (Main Chamber of Nurses and Midwives, 2019), and students increasingly admit to studying nursing for financial reasons (Jendrysik & Knapik, 2020; Rachubińska et al., 2017). Jendrysik analyzed the motives for undertaking nursing studies with regard to students' levels of empathy. Those who entered college for financial motives obtained statistically lower scores for empathy (Jendrysik & Knapik, 2020). Therefore, it is necessary to develop nursing curricula in which practical learning of the profession is based on technical skills and improving knowledge but is also permeated with humanistic content that will contribute to strengthening awareness and care skills.

Limitation of study

This study has several limitations. The findings were based on respondents' self-evaluation. Future studies should include assessment of nurses' caring abilities based on the perspective of patients and nurses to acquire a comprehensive assessment of nurses' caring abilities. The study, which included the cultural adaptation of the CAI-PL, was the first study of the structure of "caring abilities" in Poland. No national-level research is available that addresses this issue. There is also a need to develop research that will broaden the general knowledge of this area in the country and start a discussion on the shaping and strengthening of the caring abilities of Polish nurses, in addition to contributing to the development of the CAI-PL tool in Poland. Furthermore, studies should be conducted using cross-sectional investigation and long-term analysis to explore changes in the level of caring ability at different time points. Another methodological limitation stems from the fact that the CAI-PL instrument has only been psychometrically evaluated among RNs and nursing students – not among midwives or other members of medical staff.

Conclusion

The study to validate and culturally adapt the Caring Ability Inventory identified the satisfactory psychometric properties of the Polish version of the scale. The CAI-PL is a reliable scale with internal consistency. The construct's accuracy was verified by factor analysis, indicating that the items in each dimension of the instrument were not grouped

identically as in the original inventory and did not retain the same number of items (the CAI-PL consists of 36 items). Polish nurses' level of caring abilities was found to be low but likely to improve through professional training. Further research is needed to examine the effectiveness of postgraduate education in developing caregiving capacity and to identify important factors influencing this process. Furthermore, the importance of mentoring and academics' attitudes in the development of these skills should be explored. At the stage of professional training, the care-related experience of students should undoubtedly be fostered, and curricula should be reorganized with a greater emphasis on the humanistic aspects of nursing. This is confirmed by the relationship between the scores in the scale / subscales and the decision to study from a desire to help and work with others in the obtained results. Research related to nursing care should also be conducted to determine how cultural factors affect nurses' caregiving abilities.

Ethical aspects and conflict of interest

This study was approved by the Bioethics Committee of the Medical University of Lublin (No. KE-0254/289/2020) and was conducted according to the ethical standards of the Declaration of Helsinki. Participants were invited to the study voluntarily. All respondents were informed about the course of the research and the principle of confidentiality and anonymity during the study process.

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Author contributions

Conceptualization (MM, BD), methodology (MM, BD), formal analysis and investigation (MM, BD, RM), writing – original draft preparation (MM, BD), writing – review and editing (MM, BD), supervision (BD).

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