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Patients' and nurses' perceptions of individualised care: an international comparative study

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Aim. The aim of this study was to compare patients' and nurses' perceptions of individualised care in five European countries, the Czech Republic, Cyprus, Finland, Greece and Hungary.

Background. Individualised nursing care has been studied from both patients' and nurses' perspectives, but to date, there are no studies comparing these perspectives internationally.

Methods. A cross-sectional comparative survey design was used. Data were collected from nurses (n = 960; response rate, 79%) and patients (n = 1315; response rate, 78%) in 71 surgical units from 26 acute hospitals in 2009. Data were collected using two Individualised Care Scales (ICS-Nurse and ICS-Patient) and analysed statistically using descriptive and inferential statistics.

Results. Differences in patients' and nurses' assessments of individualised nursing care were found between each country. Nurses, compared with patients, assessed that they supported patient individuality more often. The $\text{Mean}_{\text{nurses}}$ ranged from 3·61 (SD 0·90, Greece)–4·31 (SD 0·53, Hungary), and the $\text{Mean}_{\text{patients}}$ ranged from 3·05 (SD 1·09, Greece)–3·79 (SD 1·00, Cyprus). To a large extent, the care provided was individualised as defined by the $\text{Mean}_{\text{nurses}}$ 3·75 (SD 0·92, Greece)–4·36 (SD 0·49, Hungary) and the $\text{Mean}_{\text{patients}}$ 3·41 (SD 0·95, Greece)–4·18 (SD 0·79, Cyprus). In Cyprus and Finland, patients' assessments of the individuality in their care corresponded well with nurses' assessments. Clear between-country differences in both patients' and nurses' assessments were found in both subscales of the ICS.

Conclusions. An in-depth analysis of the European between-country differences is required to define the causes of differences that may be due to the differing content of education, the organisation of nursing work, ideology and values assigned to individualised care and health care systems and processes in each country.

Relevance to clinical practice. Obtaining both patients' and nurses' assessments of individualised care may facilitate the further development of individualised nursing care and be used to help to harmonise European health care processes and nursing care.

Key words: individualised care, international, nurse, nursing, patient, perception, survey

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Introduction

It is important to measure both nurses' and patients' perceptions of the quality attributes of nursing care (Zhao *et al.* 2009), and little research has been conducted in the area of individualised care in acute care episodes. This is an important area of research because as acute care episodes decrease in length (Vanhaecht *et al.* 2010), both patients and their nurses may need to develop a different attitude towards patient responsibility for their hospital care. The ability of patients to take an increasing responsibility for their care is enhanced by individualising nursing care to each patient (Frich 2003, Suhonen *et al.* 2008a). As patients are the recipients of care, it is important to identify their perceptions of care provided (Henderson *et al.* 2007) and the extent to which nurses and patients share the same understanding (Walsh & Dolan 1999, Green 2004). To date, there are no international comparative studies about patients' and nurses' perceptions of the maintenance of individualised care. However, it has been reported that patients differ from nurses in their perceptions of caring (e.g. Gardner *et al.* 2001, Chang *et al.* 2005, McCance *et al.* 2009, Tucket *et al.* 2009, Weiss *et al.* 2010).

International nursing research has been considered important for the advancement of nursing knowledge, facilitating a global perspective for nursing (ICN 1999, WHO 2006). The ease of mobility in Europe and to other countries has increased the cultural and linguistic diversity of populations. Health professionals need to be able to provide culturally and linguistically responsive care in these populations in a variety of clinical settings (Jones *et al.* 2004). This need requires research into how cultural and linguistic diversity affects the perceptions of nursing care in the various subgroups (Jones *et al.* 2004, Sidani *et al.* 2010). Despite this clear need for research, there is little international nursing research into the quality attributes of nursing to guide the appropriate development of clinical nursing care (Chiang-Hanisko *et al.* 2006, Suhonen *et al.* 2009). The aim of this international comparative study was to compare patients' and nurses' perceptions of individualised care in five European countries: Cyprus, Czech Republic, Greece, Finland and Hungary. These countries represent the south, middle and north Europe.

Background

Studies have revealed some differences between nurses' and patients' perceptions of what might be termed 'quality' or 'good' nursing care (e.g. Zhao *et al.* 2009, Weiss *et al.* 2010). For example, using the nursing process, nurses' assessments of care-related activities and progress were higher compared with those of their patients (Zhao *et al.* 2009), and nurses have assessed patient readiness for discharge from hospital higher than their patients (Weiss *et al.* 2010). Additionally, differences have been found in the perception of sleep quality and sleep disturbing factors between inpatients and nurses (Lei *et al.* 2009), and Florin *et al.* (2006) found that registered nurses were not always aware of their patients' perspective and tended to overestimate their patients' willingness to assume an active role in their care. Bahrami *et al.* (2008) found that there were differences between patients' and nurses' perceptions about the quality of life of their cancer patients, and nurses tended to underestimate their patients' quality of life in the domains of social relationships and the environment. The different views expressed by the nurses and patients in the above studies may reflect the different views of the 'quality' of nursing care and in this the different standards and ways both groups perceive the characteristics of care (Zhao *et al.* 2009).

The concept of individualised care has been explored in terms of nursing staff and their clinical care (Chappell *et al.* 2007, Caspar *et al.* 2009) as has the extent to which nurses (Chappell *et al.* 2007, Suhonen *et al.* 2010b) and their patients (Happ *et al.* 1996, Radwin & Alster 2002, Suhonen *et al.* 2008b) perceive that the care they provided or received was individualised. However, there is still a lack of consensus about what constitutes individualised nursing care. There are some conceptualisations from both patients' (Radwin & Alster 2002, Suhonen *et al.* 2005) and nurses' (Chappell *et al.* 2007, Suhonen *et al.* 2010a,b) perspectives, but most of these empirical evaluations have been limited to national studies. This study is an important addition researching individualised care in an international context considering both the patients' and nurses' perceptions.

Individualised care considers each patient as a separate entity (Radwin & Alster 2002, Suhonen *et al.* 2004, Chappell *et al.* 2007) requiring that nurses 'learn' from each patient, caring for them as a unique individual (Radwin & Alster 2002, Chappell *et al.* 2007). Individualising care to their patients' unique needs requires nurses and patients to have a similar understanding about the care of individuals (Radwin & Alster 2002) and what it means to know and understand (Takemura & Kanda 2003, Chappell *et al.* 2007).

Some consequences and advantages of individualised care have been identified in the research literature, making the topic worthy of further study. For example, there is empirical evidence that individualised care has a positive impact on the patient outcomes (Frich 2003, Suhonen *et al.* 2008a), has been found to increase patient satisfaction with nursing care (Ruggeri *et al.* 2003, Acaroğlu *et al.* 2007) and improves patients' quality of life (Richards *et al.* 2001, Acaroğlu *et al.* 2007, Suhonen *et al.* 2007a) and autonomy (Proot *et al.* 2000, Hwang *et al.* 2006, Suhonen *et al.* 2007a). Individualised care

also increases the motivation and work satisfaction of nursing staff (Lake & Friese 2006, Tellis-Nayak 2007). The literature also suggests that the nursing care provided is not always individualised from the patients' point of view (Attree 2001, Anderson *et al.* 2003, Barry *et al.* 2005), adding to the debate that patients and nurses may perceive nursing care and individualisation in particular, in different ways.

In international studies, between-country differences in patients' (e.g. Suhonen *et al.* 2008b) and nurses' (e.g. Chambers *et al.* 2010) perceptions about the quality attributes of care have been found. For example, between-country differences in both patients' and nurses' perceptions of autonomy, privacy and informed consent have been reported (Leino-Kilpi *et al.* 2003, Schopp *et al.* 2003a,b, Scott *et al.* 2003) mainly on a north–south European axis. Between-country differences in orthopaedic and trauma patients' perceptions of individualised care have also been identified in Europe (Suhonen *et al.* 2008b). In addition, between-national differences have been reported with reference to many different clinical nursing interventions, such as use of physical restraints (Jensdottir *et al.* 2003, Martin & Mathisen 2005) and the promotion of resident activities (Jensdottir *et al.* 2003). As international studies are rare, it may be too early to find individual factors explaining these differences. However, identifying possible differences between countries in processes and interventions and patients' and nurses' perceptions about care quality attributes may facilitate the development of global clinical nursing care by helping nurses to communicate successfully in different clinical settings with linguistically and culturally diverse patient groups.

Aims

The aim of this international comparative study was to compare patients' and nurses' perceptions of individualised care in five European countries and between these countries. The following research questions were set:

- What differences, if any, are there between patients' and nurses' perceptions of individualised care in each country?
- What differences, if any, are there in patients' perceptions of individualised care between European countries?
- What differences, if any, are there in nurses' perceptions of individualised care between European countries?

Methods

Design, settings and sample

This cross-sectional and comparative survey was a part of a large project (Caring Project) employing three separate instruments. The sample size for this project, calculated using the NQuery Advisor statistical program for the between-country comparison, was estimated as part of the whole project using the three instruments in six countries. Calculations assumed that a change or difference of $\pm 0{\cdot}5$ between the means in the items of the ICS-Nurse or ICS-Patient was clinically important.

For organisational reasons, only studies in five of the countries used the ICS-Nurse and the ICS-Patient. Power analysis required at least 223 completed patient and 150 nurse questionnaires from each country to achieve a power level of 90% ($\alpha = 0{\cdot}01$). This was achieved through the collection of data from a convenience sample of surgical inpatients ($n = 1315$, response rate, 78%) and their nurses ($n = 960$, 79%) from a total of 71 general surgical inpatient wards in 26 hospitals. The survey was carried out in the Czech Republic (five hospitals, 18 wards), Cyprus (six hospitals, 15 wards), Finland (seven hospitals, 14 wards), Greece (four hospitals, 15 wards) and Hungary (four hospitals, nine wards) during autumn 2009.

To be included in the study, patients were required to (1) be hospitalised in general surgical units for an operation or any other surgical treatment, (2) have spent at least two days in the hospital as an inpatient, (3) be cognitively aware, as judged by the head nurse (4) be able to communicate in the native language of the participating country and (5) be willing to participate in the study. For nurses to be included, they were required to be (1) registered nurses, (2) working in the same general surgical inpatient wards as the patients in the study and (3) willing to participate in the study. Each country recruited as many hospitals and wards as was required to obtain sufficient data to meet the requirements of the power calculations.

Measure

The concept of individualised care has been found to include three domains: the clinical situation (Radwin 1995, Happ *et al.* 1996, Suhonen *et al.* 2004), the personal life situation (Suhonen *et al.* 2004, Weiner 2004) and decisional control over care (Happ *et al.* 1996, Suhonen *et al.* 2004). These form the basis of the Individualised Care Scale (ICS). The Individualised Care Scale-Patient (ICS-Patient) (Suhonen *et al.* 2005, 2008b, 2010c) and ICS-Nurse (Suhonen *et al.* 2010a,b) versions of the ICS were used to collect the data. The two scales have the same two-part (ICS-A and ICS-B) structure designed for the exploration of patients' and nurses' views on individualised care. ICS-A focuses on how individuality has been supported through nursing activities, and ICS-B focuses on how individuality has been perceived in the

care received (patients) and provided (nurses). Both the ICS-A and ICS-B have 17 items and a five-point Likert-type scale (1 = strongly disagree, 2 = disagree to some extent, 3 = neither agree nor disagree, 4 = agree to some extent, 5 = strongly agree). The higher the scale mean scores, the better the patient individuality is supported (ICS-A) and the higher are the perceptions of the maintenance of individuality in care (ICS-B). Both ICS-A and ICS-B consist of three subscales as conceptualised above: (1) clinical situation (seven items), (2) personal life situation (four items) and (3) decisional control over care (six items).

The psychometrics and validity of the ICS have been evaluated from four sets of data (Suhonen *et al.* 2005, 2007a) and already existed in Greek language among others (Suhonen *et al.* 2008b, 2010c). For this study, a suitability evaluation, assessment of conceptual relevance and standard forward–back translation followed by research group discussion (Sidani *et al.* 2010) were used to obtain the Hungarian and Czech Republic versions of the ICS-Patient and ICS-Nurse. The scales were pilot tested (n = 30 patients and 30 nurses in each country), and no changes were required after the pilot test.

Data collection and ethical considerations

This study was conducted according to general ethical standards (Beauchamp & Childress 2001) and individual national study protocols. The Ministry of Health of Cyprus (code Y.Y. 5.14.02.4(2)) and the Cyprus National Bioethics Committee (code ΕΕΒΚ/ΕΠ/2008/1) reviewed and approved the research protocol as Cyprus was the coordinating country for the research study. Research partners in each participating country were responsible for obtaining ethical approval and permission to collect data according to their national standards and the study power calculations.

Contact persons appointed by the research partners in each country distributed the questionnaires to both patients and nurses. Along with the questionnaires, participants received written and verbal information about the purpose of the study, including its voluntary nature, the right to withdraw at any time without this altering their treatment and with a guarantee of anonymity and confidentiality of the data. Patients completed the questionnaires at the hospitals after the discharge day had been agreed, but before leaving the hospital for home. Patients placed the completed questionnaires, sealed in envelopes, in boxes in each ward. Nurses were asked to return the questionnaires in a similar box placed in the ward. Reminders were given to the nurses one and two weeks after the distribution of the questionnaires. Return of the completed questionnaire was considered to be informed consent for participation in the study for both patients and nurses.

Data analysis

Data were analysed using SPSS 16.0 for Windows (SPSS Inc., Chicago, IL, USA). First, descriptive statistics, such as means, standard deviations, minimum, maximum, frequencies and percentages, were computed for background variables, items and scales. Second, inferential statistics were used for several comparisons. Nurses' and patients' perceptions of individualised care were compared using independent samples t-test (t-statistics, degrees of freedom, p-value). Patients' and similarly nurses' background variables were compared by country using a one-way analysis of variance (ANOVA, F-statistics, degrees of freedom and p-value) for the numerical variables and chi-square tests (chi-square with degrees of freedom and p-value) for categorical variables. As the background variables differed significantly (Tables 1 and 2), showing no homogeneity of the national samples, comparison was carried out using the analysis of covariance (ANCOVA) (Munro 1997). In this analysis, demographic variables were used as covariates. The covariates for the patients' data were gender, age, education, days of hospitalisation, if the patient had a surgical intervention, previous hospital experience, type of admission and health condition. The covariates for the nurses' data were gender, age, total work experience, work experience in the unit and type of work. Marginal means were estimated for the ICS-A and ICS-B scales for each country, along with 95% confidence intervals, and F-statistics, degrees of freedom and p-values were calculated for the existence of overall between-country differences, and pairwise multiple comparisons were performed using the Bonferroni adjustment.

Results

Respondents

Patients

The mean age of the patients ranged from 47·1 (SD 18·2) to 59·1 (SD 14·4) years, the youngest being in Cyprus and the oldest in Finland (Table 1). Approximately half of the patients were women, but in Hungary, two-thirds were women. The majority of the patients had a surgical intervention during this hospital period (64–87%). Cypriot patients had an emergency admission more often than those from other countries who were more likely to have had a scheduled surgical admission. The mean length of the hospitalisation ranged from 6·0–16·7 days, the shortest being in Finland and the longest in Hungary.

Table 1 The background data of the patients

	Czech Republic	Cyprus	Finland	Greece	Hungary	Test statistics	*p*-value
No. of distributed questionnaires	380	285	357	280	380		
n = returned questionnaires	287	239	292	250	274		
Questionnaires eligible for analysis	280	220	291	250	274		
Response rate	74	77	82	89	72		
	%	%	%	%	%	Chi-square (df)	*p*-value
Gender							
Male	54	55	47	53	34	31·54 (4)	< 0·001
Female	46	45	53	48	66		
Education							
No education	1	2	1	4	0	157·10 (16)	< 0·001
Primary	17	24	48	24	14		
Secondary	52	51	24	38	54		
College	13	12	20	16	21		
University	17	11	7	18	11		
Surgical intervention							
Yes	79	64	78	87	84	41·71 (4)	< 0·001
No	21	36	22	13	16		
Type of admission							
Planned, scheduled	62	45	68	62	84	78·46 (4)	< 0·001
Via emergency	38	55	32	38	16		
Health condition							
Very good	11	21	3	25	1	193·74 (16)	< 0·001
Good	39	42	35	45	30		
Fair	37	30	57	26	52		
Bad	10	5	4	3	14		
Very bad	3	2	1	1	3		
Previous experiences of hospital							
Yes	74	74	92	67	81	59·80 (8)	< 0·001
No	23	25	8	30	16		
Don't remember	3	1	0	3	3		
	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	ANOVA F (df1, df2)	*p*-value
Age	51·6 (17·1) 18–94	47·1 (18·2) 17–86	59·1 (14·4) 17–88	53·4 (18·4) 18–90	56·3 (13·5) 20–86	19·10 (4, 1310)	< 0·001
Days of hospitalisation	10·6 (9·7) 1–62	6·3 (7·5) 1–75	6·0 (5·6) 1–43	11·0 (12·6) 1–120	16·7 (18·8) 1–110	33·77 (4, 1310)	< 0·001

The results of the ANOVA (Table 1) showed that there were significant differences between the countries, both in age and in days of hospitalisation (*p*-value < 0·001). Similarly, the results from the chi-square tests for the categorical variables in the between-country comparisons showed that there were significant differences in all variables (gender, education, whether the patient had a surgical intervention in the present admission, whether the patient had previous experience in a hospital, type of admission and health condition (*p*-values < 0·001).

Nurses

The majority of the nurses were women (76–99%). Cyprus differed significantly from other countries in this trend. The majority worked full-time, and the mean age of the respondents ranged from 34·3 (SD 10·3, Czech Republic) to 42·7 (SD 10·7, Finland) years. The length of working experience of the respondents was computed as 12·7 (SD 10·6)–18·3 (SD 8·9) years.

The results of the ANOVA tests (Table 2) again showed that there were highly significant differences in the demographics between the countries for all the numerical variables (all

Table 2 Background data of the nurses

	Czech Republic	Cyprus	Finland	Greece	Hungary	Test statistics	*p*-value
No. of distributed questionnaires	245	180	360	180	250		
n = returned questionnaires	185	154	283	169	183		
Questionnaires eligible for analysis	185	140	283	169	183		
Response rate	76 %	78 %	79 %	94 %	73 %	Chi-square (df)	*p*-value
Gender							
Male	2	24	1	15	3	92·32 (4)	< 0·001
Female	98	76	99	85	97		
Type of work							
Full-time	93	98	95	96	92	7·35 (4)	0·118
Part-time	7	2	5	4	8		
	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	Mean (SD) Range	ANOVA F (df1, df2)	*p*-value
Age	34·3 (10·3) 20–58	35·0 (11·5) 20–62	42·7 (10·7) 21–61	35·5 (8·1) 21–55	38·6 (8·6) 23–65	27·27 (4, 955)	< 0·001
The total length of experience, years	12·7 (10·6) 0·5–39	13·3 (11·3) 0·5–42	17·9 (10·6) 1–40	12·8 (8·8) 0·5–32	18·3 (8·9) 1–42	15·19 (4, 955)	< 0·001
The length of experience in the unit, years	8·8 (8·5) 0·5–38	13·3 (11·3) 0·5–42	11·5 (9·7) 0·5–38	6·1 (6·4) 0·2–30	12·3 (8·3) 0·5–36	21·21 (4, 955)	< 0·001

p-values < 0·001), namely age, total experience and experience in the unit. Similarly, the results from the chi-square tests for the categorical variables in the between-country comparisons showed that there were highly significant differences for all categorical variables, namely gender and education (both *p*-values < 0·001), except type of work ($p = 0·118$).

A comparison of patients' and nurses' perceptions of individualised care

Support of patients' individuality (ICS-A)

Cypriot patients (mean 3·79, SD 1·00) gave the highest assessment about the support of patient individuality through nursing activities (ICS-A), and Greek patients gave the lowest (mean 3·05, SD 1·09). Regarding the ICS-A for nurses, Hungarian nurses assessed that they supported patient individuality through nursing activities well (Mean 4·31, SD 0·53), while Greek nurses gave the lowest assessments (mean 3·61, SD 0·90). Independent samples *t*-test (Table 3) showed differences between patients' and nurses' perceptions of the support of patient individuality in each participating country ($p < 0·01$).

Perceptions of individuality in the care received (ICS-B)

Patients assessed that the care they received was individualised. Again, Cypriot patients gave the highest assessments (mean 4·18, SD 0·79), and the Greek patients gave the lowest (mean 3·41, SD 0·95). In relation to the nurses' assessments of the individuality in the care provided, the Hungarian nurses gave the highest assessments (mean 4·36, SD 0·49) about the maintenance of individuality in the care they provided for their patients, while the Greek nurses gave the lowest assessments (mean 3·75, SD 0·92). In the ICS-B scale, the patients' and nurses' assessments differed significantly in the Czech Republic, Greece and Hungary. In Finland and Cyprus, patients' and nurses' assessments were very similar.

Between-country comparisons of patients' perceptions of individualised care

Support of patient individuality (ICS-A)

Marginal means with 95% confidence intervals were estimated for the ICS-A and ICS-B scales for each country using an ANCOVA. This showed that there were statistically significant differences in the patients' sample in the ICS-A scale between the five countries ($F = 16·6$, df1 = 4, df2 = 1096, *p*-value < 0·001) (Table 4) Pairwise comparisons showed that the mean of Greece was significantly lower compared with all other countries (Cyprus, Hungary, the Czech Republic, Finland, with *p*-values < 0·001).

Perceptions of individuality in the care received (ICS-B)

Results from the ANCOVA showed that there were statistically significant differences in the results from the ICS-B scale between the five countries ($F = 22·2$, df1 = 4, df2 = 1035,

Table 3 Comparison of patients' and nurses' perceptions of individualised care in five countries*

	Czech Republic		Cyprus		Finland		Greece		Hungary	
	n	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)
Support of patient individuality (ICS-A)										
Patients	251	3·54 (0·86)	187	3·79 (1·00)	224	3·66 (0·92)	218	3·05 (1·09)	229	3·56 (1·04)
Nurses	165	4·12 (0·52)	121	4·03 (0·52)	269	4·00 (0·47)	147	3·61 (0·90)	162	4·31 (0·53)
		t-value (df)		*t*-value (df)		*t*-value (df)		*t*-value (df)		*t*-value (df)
		p		*p*		*p*		*p*		*p*
		8·59 (414)		2·74 (306)		5·02 (491)		5·37 (363)		9·22 (389)
		< 0·001		0·006		< 0·001		< 0·001		< 0·001
Individuality in care provided (ICS-B)										
Patients	237	3·76 (0·76)	175	4·18 (0·79)	219	3·96 (0·79)	199	3·41 (0·95)	218	3·94 (0·85)
Nurses	158	4·17 (0·54)	120	4·15 (0·53)	275	3·79 (0·50)	142	3·75 (0·92)	153	4·36 (0·49)
		t-value (df)		*t*-value (df)		*t*-value (df)		*t*-value (df)		*t*-value (df)
		p		*p*		*p*		*p*		*p*
		6·25 (393)		−0·33 (293)		0·21 (492)		3·33 (339)		6·01 (369)
		< 0·001		0·738		0·836		0·001		< 0·001

**t*-test, *t*-value with *p*-value.

Table 4 Between-country comparisons of patients' and nurses' perceptions of individualised care

	Czech Republic		Cyprus		Finland		Greece		Hungary			
	n	Mean CI 95%	*n*	Mean CI 95%	*n*	Mean CI 95%	*n*	Mean CI 95%	*n*	Mean CI 95%	F(df1, df2)*	*p*-value
Support of patient individuality (ICS-A)												
Patients	251	3·54	187	3·74	224	3·69	218	3·00	229	3·62	16·6 (4, 1096)	< 0·001
		3·42–3·67		3·58–3·91		3·54–3·83		2·86–3·14		3·47–3·77		
Nurses	165	4·17	121	4·04	268	3·97	147	3·60	162	4·28	24·8 (4, 854)	< 0·001
		4·07–4·25		3·92–4·16		3·90–4·05		3·50–3·70		4·18–4·38		
Individuality in care provided (ICS-B)												
Patients	237	3·77	175	4·15	219	3·97	199	3·36	218	4·00	22·2 (4, 1035)	< 0·001
		3·66–3·88		4·01–4·30		3·85–4·09		3·24–3·48		3·87–4·13		
Nurses	158	4·22	120	4·16	274	3·95	142	3·73	153	4·37	23·3 (4, 838)	< 0·001
		4·12–4·32		4·04–4·29		3·88–4·03		3·62–3·83		4·27–4·48		

*Analysis of covariance ANCOVA (Bonferroni adjustments), *F*-statistics, degrees of freedom, *p*-value.

p-value < 0·001). (Table 4) Pairwise comparisons showed that the mean of Cyprus was significantly higher than the Czech Republic and Greece (*p*-values < 0·001), and the mean of Greece was significantly lower than all the other countries (Cyprus, Hungary, the Czech Republic and Finland, with *p*-values < 0·001).

Between-country comparisons of nurses' perceptions of individualised care

Support of patient individuality (ICS-A)

In the nurses' sample, results from the ANCOVA showed that there were statistically significant differences in the ICS-A scale between the five countries ($F = 24·8$, df1 = 4, df2 = 854, *p*-value < 0·001). (Table 4) Pairwise comparisons showed that the mean of Hungary was higher compared with Cyprus ($p = 0·038$), Greece ($p < 0·001$) and Finland ($p < 0·001$). Moreover, Greece had a lower mean compared with Cyprus, Hungary, the Czech Republic and Finland (all $p < 0·001$). Finally, the mean of Finland was also lower compared with the Czech Republic ($p = 0·028$).

Perceptions of individuality in care provided (ICS-B)

Results from the ANCOVA showed that there were statistically significant differences in the results of the ICS-B scale

between the five countries ($F = 23{\cdot}3$, df1 = 4, df2 = 838, p-value < 0·001) (Table 4). Pairwise comparisons showed that the mean of Greece was lower compared with all other countries; for Cyprus, Hungary and the Czech Republic, the p-values were smaller than 0·001, and for Finland, $p = 0{\cdot}01$. Also, Finland had a lower mean compared with Cyprus ($p = 0{\cdot}045$), Hungary ($p < 0{\cdot}001$) and the Czech Republic ($p = 0{\cdot}001$).

Discussion

Methodological consideration and limitations

Some limitations need to be taken into account in the interpretation of the results. First, convenience samples were used, so some groups may not be represented. However, in mitigation, the data may be considered representative of the patients and nurses in each country as many hospitals and different wards were recruited to the study using similar inclusion criteria. For example, the Cypriot data are quite representative because they were collected from all the hospitals of the country and covered the whole geographical area. Although the Greek hospitals were situated in the capital area, the Greek sample is representative because patients came to the hospital from all over the country. In addition, all the samples met the requirements of the power analysis calculations for sufficient sample size for between-country comparisons.

Second, there is a risk in comparing samples from different cultures, as typical patients in one country are not necessarily typical in another country. The data from each country were initially incomparable because the samples differed in the background variables. Taking this into account, an analysis of covariance (ANCOVA) was used to standardise the respondent's background variables in both patients' and nurses' samples. The advantage that ANCOVA holds over other techniques is the ability to measure group differences after allowing for other differences between subjects (Munro 1997). Third, the inclusion criteria were slightly violated. The inclusion criteria for patients included a minimum two-day hospital stay. The violation occurred because some patients, who were given their discharge date early, may have completed the questionnaires on the day prior to discharge. Where this happened, some of the patients may not have had two days in hospital prior to completion of the questionnaire. Finally, samples of the nurses' from different countries may differ because of the varying levels of nurse education and registration. Again in mitigation, the European Union (EU) definition of a General Nurse described in the Directive EU 2005/36/EC was adopted for the study. Therefore, each sample represented registered nurses who met the needs of their patients, meeting standards at a level appropriate for that individual country. One strength of this study lies in the systematic data-collection procedures, which were conducted in the same time period in each of the countries.

Discussion of results

Both patients and nurses perceived that the nurses supported patient individuality in the care, received or provided, to some extent. Patients gave lower scores compared with nurses in each country, but overall, there was a high degree of individuality received by patients, provided by nurses. In this respect, there was no clear trend in the differences between nurses and patients. Nurses' assessments about the maintenance of individuality in care provided were higher compared with patients in the Czech Republic, Greece and Hungary. This also occurred in Cyprus and Finland, although no statistically significant differences could be reported. Between-country differences in both patients' and nurses' assessments were found in support of patient individuality (ICS-A) and individuality in care (ICS-B), with Greek patients giving the lowest assessments and the Cypriot patients giving the highest. With regard to nurses' assessments, Hungarian nurses gave the highest and the Greek nurses gave the lowest assessments.

This study provides new information about patients' and nurses' perceptions of individualised care. One clear trend seems to be that nurses tend to think that the care they provide is individualised more often than their patients, supporting earlier studies in other topics (e.g. Florin *et al.* 2006, Lei *et al.* 2009, Zhao *et al.* 2009, Weiss *et al.* 2010). Clear between-country differences were also found to correspond to previous studies (Leino-Kilpi *et al.* 2003, Schopp *et al.* 2003a,b, Scott *et al.* 2003, Suhonen *et al.* 2008b) where differences were found mainly on a north–south European axis. However, some different countries from central Europe, such as Hungary and the Czech Republic, participated in this study from which only a few previous studies have reported data in international forums. These results provide a good foundation for continuing studies in this area. The low ratings in individualised care given by the Greek patients are confirmed by a recent questionnaire survey using the ICS-A and ICS-B in four European countries (Suhonen *et al.* 2008b) and may be influenced by the low numbers of registered nurses (WHO 2006) and the delivery of hospital care by informal carers.

The Cypriot patient sample included the youngest patients, and these gave the highest assessments of individualised care even though a lower age has been previously found to be

associated with critical evaluations (e.g. Suhonen *et al.* 2010d). An explanation for this might be the between-country organisational differences, especially the method of care delivery in hospital wards (see Suhonen *et al.* 2007b). The Cypriot total patient care system provides more opportunities for nursing interventions to be tailored to the specific needs of the patients (Lundh *et al.* 2006). This is very different to the model employed in Greek hospitals, which is based on a task-allocation approach. Fragmented care and a low professional accountability (Merkouris *et al.* 2004) may explain why the individualised care assessments of Greek nurses were also the lowest of all the six countries. Further studies and analyses are needed to explore patients' and nurses' background characteristics as well as organisational variables in relation to these perceptions of individualised nursing care.

The fact that Cyprus has the largest number of male nurses might have also contributed to the feeling of patients that they received individualised care. Previous findings indicate that certain caring behaviours performed by male nurses differ from their female colleagues (Lee *et al.* 2010), and it may also mean differences in their perceptions of care provision and perceptions. In addition, patients' gender has also been found to be an explaining factor for their perceptions of individualised care (Suhonen *et al.* 2010d). However, these gender differences and their effects on the delivery and practice of nursing care need to be explored further as research findings indicate that certain caring behaviours performed by male nurses differ from their female colleagues because of extant internal conflicts between masculine and caring concepts (Ekstrom 1999). The differences found between Greece and Cyprus were surprising given the apparent similarities in culture, religion, language and that the two countries' share a classical Greek civilisation history. However, Cyprus is different from Greece in that Cyprus has had many turbulent times (Georgiades 2001, Cyprus Popular Bank 2006) that may have made a difference to the perceptions of individualised care. There is a pressing need to collect qualitative data about how patients and nurses perceive individualised care in these countries to specify and verify the conceptualisation of the ICS further in these culturally different settings.

Some of the between-country differences may be due to the variability of nurse education, which has an impact on the results through nurses' assessments. Education has previously been found to have an impact on nurses' assessments about individualised care at an international level (Walker *et al.* 1999, Suhonen *et al.* 2009), but not at a national level (Suhonen *et al.* 2010b). Ethics education may have an impact on nurses' positive assessments (Scott *et al.* 2003) because nursing is rooted in ethical principles and philosophy (Thompson *et al.* 2006). Countries participating in this study have revised their nursing curricula and moved their education to higher levels at differing times. For example, 73% of the Czech Republic nurses in this study had received an educational degree after four years of vocational schooling at the secondary level focussing on instrumental skills and medical knowledge.

There are many other possible reasons for the between-country differences. Nurses' higher assessments about individualised care may be attributed to their attitudes to their work, which has been associated with a high morality and the recognition of individuality (Walker *et al.* 1999, Curry *et al.* 2000). In contrast, some nurses may think that care is individualised *per se* because patients are cared for one at a time. The discrepancy between nurses' and patients' evaluations about the same situation (e.g. Gardner *et al.* 2001, Chang *et al.* 2005, McCance *et al.* 2009, Tucket *et al.* 2009, Weiss *et al.* 2010) does indicate that patients and nurses have different perceptions about health care practice.

The differing number of nurses present in a given situation may also have an impact on the results because of, for example, the shortage of nursing workforce in some countries (WHO 2006). This makes a difference in the amount of time registered nurses spend with their patients and the amount and type of care delivered to patients by others. For example, in the majority of Greek hospitals, nursing care is mainly provided by nurse assistants with two years of nurse education. Family members are not simply patients' visitors but rather augment the workforce as dedicated caregivers and decision-makers (Sapountzi-Krepia *et al.* 2008).

The results may have also been affected by the prevailing political and social atmosphere, the different health care systems and reforms and the resultant state of patients' rights, empowerment and care ideologies (Saltman & Figueras 1998). The health care systems of most of the participating countries are financed by public expenditure through the country's tax system. The health care system in the Czech Republic is different being financed by compulsory health insurance. Partial and ongoing health care reform that started in the Czech Republic in 2008 may have led to the Czech Republic patients being confused and ill-informed about what they should be expecting from hospital health care, making them more critical of their care than they might have been at other times. This type of difference is to be expected as the financial, political and social atmosphere have an impact on the way nursing care is defined and organised in each of the participating European countries, affecting the nurses' and patients' responses to individualised care assessments.

Conclusion

Obtaining both the patients' and nurses' assessments about individualised care may facilitate the development of individualised clinical nursing care. Studies and their results at an international level may help to harmonise the European health care processes including those related to nursing care. In this study, differences about the assessment of individualised care were found mainly on a north–south European axis. An in-depth analysis of these European between-country differences is required to define the causes. Such differences may be due to the differing content of education, the organisation of nursing work, policies underpinning the ideology and values assigned to individualised care and health care systems and processes in each country.

Relevance to clinical practice

Individualised nursing care has been studied from both patients' and nurses' points of view. However, studies comparing these viewpoints are rare, and there are none at an international level. Both of these perspectives are important in understanding what constitutes the quality of care. The results are applicable in clinical practice as individualised care has been found to be beneficial for patient and nurse outcomes and is valued by patients. However, patients often perceive care as impersonal and technical, and their results may help in the development of care to be more individual for the patients. Nurses' assessments are higher than patients' assessments, with regard to both the support of patient individuality through nursing activities and the perception of individuality in the care provided, or in relation to patients' care received. In addition, there are between-country differences in both patients' and nurses' assessments about individualised care. There is needed to examine whether the term 'individualised care' may mean different things to patients and nurses from different cultures in a north–south European axis. International comparative studies will facilitate the understanding of the outcomes of nursing interventions in global terms, helping nurses to treat and care for patients from different cultures more effectively and also motivating nurses to network and interact in international networks.

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Contributions

Study design: EP, GE, RS, HL-K, EP, CK, DJ, ZB; data collection and analysis: EP, GE, RS, DJ, EP, CK, ZB, HT and manuscript preparation: RS, GE, HT, DJ, HL-K, EP, CK, ZB, EP.

Conflict of interest statement

There is no conflict of interest.

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