

ORIGINAL ARTICLE

Quality of nursing care as perceived by cancer patients: A cross-sectional survey in four European countries

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Summary

Purpose: To explore and compare cancer patients' perceptions on the quality of nursing care in four European countries.

Methods: Data were collected in Cyprus, Finland, Greece and Sweden. The sample comprised 596 hospitalized cancer patients. The quality of nursing care was measured using the "Oncology Patients' Perceptions of the Quality of Nursing Care Scale" (OPPQNCS). Patient characteristics were also collected. Analysis of variance was used to examine the effects of country on the perceptions of the quality of nursing care.

Results: Patients' age ranged from 18 to 86 years, and 58% were male. The comparison of cancer patients' perceptions regarding the quality of nursing care between the four countries showed a statistically significant difference in the total OPPQNCS scores ($p < 0.001$) as well as in the subscales responsiveness ($p < 0.001$), individualization ($p < 0.001$), co-

ordination ($p < 0.001$) and proficiency ($p < 0.001$). The Cronbach's alpha coefficient for the OPPQNCS ranged between 0.89 and 0.95. A multivariate analysis of variance for the OPPQNCS controlled by respondents' demographic characteristics revealed that only the patient's country was significantly related with the patients' perceptions of quality care.

Conclusion: Quality of nursing care as perceived by cancer patients was high, but differed between the four countries. The impact of the clinical status of cancer patients on the quality of nursing care and managerial factors such as staffing/nursing care delivery models that influence the ability of nurses to offer high quality care should also be explored by more focused studies.

Key words: cross-country comparison, oncology patients, quality nursing care, survey

Introduction

Patients define quality of nursing care from a different perspective than payers, society and providers of care [1]. The concept of "quality nursing care" was interpreted "as easily accessible care delivered by clinically competent nurses and sup-

ported by the family which considers the patient's need for spiritual, religious care, communication, emotional support and information giving and promotes the participation of patients and their families to nursing care plan" [2, p:436].

The quality of nursing care is an integral part of the quality health care process. Patient satisfaction is considered an important aspect of measuring the patients' quality care [3]. However, there is still a need to determine more aspects of quality of care, such as coordination, responsiveness [4], communication [5], trust [6] and receiving information [7]. Individualized care is another important component of high quality care as well as patients' satisfaction with nursing care. Individual differences among patients, in terms of their health, illnesses and needs, highlight the necessity of providing individualized and quality care [8,9].

Even though many researchers agree that scales measuring quality of care should be based on patients' perceptions, only the Oncology Patients Perceptions of the Quality of Nursing Care Scale (OPPQNCS) [8] and the Quality of Oncology Nursing Care Scale (QONCS) [10], were developed specifically for the oncological setting.

Studies acknowledging the importance of the patients' perspectives are enhanced by examining how care may differ in different countries. We know little about how the quality of cancer nursing care varies across countries in Northern and Southern Europe. Thus, the purpose of this study was to explore and compare cancer patients' perceptions on the quality of nursing care in four European countries (Cyprus, Finland, Greece, and Sweden).

Methods

This cross-sectional survey design study was conducted as part of the ICP International Cancer Patient Study. The research ethics committee of the University of Turku approved the whole study protocol (TYET 3/2012). In addition, the research has been approved by the National standard practices in Cyprus (Ministry of Health 0020/2012, 3.28.37), Finland (chief medical administrators of the University hospital 3/2012 27.1.2012), Greece (scientific and ethical committee of the hospital 4049/901 21/03/2012) and Sweden (Manager of the University hospital DNR (Diarie number=Ref.number) 2012/178).

Potential participants were asked to sign the informed consent form and return it to the researchers. From September 2012 until June 2014, the data were collected from cancer patients (n=596) in three University level hospitals in Cyprus (3 patient care units), Finland (7 units) and Sweden (1 unit) and an oncology non-University hospital in Greece (4 units). Patients were eligible to participate if they were: 1) adults (>18 years), 2) able to read and understand the questions in the first language of the country, 3) had a confirmed

cancer diagnosis, and 4) were hospitalized for at least 48 hours. Exclusion criteria for inclusion: 1) being in protective isolation, 2) newly diagnosed and unaware of diagnosis, 3) in deteriorated condition and 4) at the end-of-life.

The quality of cancer nursing care was operationalized by the OPPQNCS [11,12] that is composed of 18 close-ended concrete statements describing specific nurse activities. The respondents ranked the frequency of each activity on a 6-point Likert-type scale (1=never to 6=always). The four factors or subscales are: (1) *responsiveness*: the nurse meets patients' needs in a caring and attentive manner (5 items), (2) *individualization*: the nurse personalizes care according to the patients' feelings, preferences, and desired level of involvement (5 items), (3) *coordination*: the nurse promotes communication between other nurses and the patient (3 items) and (4) *proficiency*: the nurse provides knowledgeable, skillful care (5 items) [11, p. 367]. For this study, the OPPQNCS was translated into Greek and Swedish using established forward-back-translation verification methods [13]. The Finnish verification was already published [14].

Participants also completed the data sheet comprising demographic characteristics. All completed questionnaires were sent to Finland for coding and data analysis.

Statistics

Statistical analysis of the data was done using SPSS version 22.0. For the purpose of this study both descriptive and inferential statistics were computed. One-way ANOVA was supported or Brown-Forsythe robust test for comparison of equality of means were used for comparing the perceptions of cancer patients in the four countries. Differences in patients' basic demographic and in-hospital related variables were calculated by the use of cross-tabulation and Pearson's χ^2 test for categorical and ANOVA/Brown Forsythe for numerical variables. Multifactor analysis was computed for the OPPQNCS scale and subscales for analyzing the between-country differences.

The model intercept and each possible covariate, country, highest education, type of admission and previous experiences of hospitalization were calculated. Estimated marginal means with 95% confidence intervals were reported and Sidak's tests were used for pairwise comparisons.

Results

The sample comprised 596 hospitalized patients who ranged in age from 18 to 86 years (Table 1). Statistically significant differences between patients across the countries were found in age ($p<0.001$), highest education ($p<0.001$), type of admission ($p=0.016$) and previous experiences of

Table 1. Background variables of the respondents by country

Country Variables	Cyprus		Greece		Finland		Sweden		Test parameter	
	n	Mean (SD) Range	n	Mean (SD) Range	n	Mean (SD) Range	n	Mean (SD) Range		p(value)
Age (years)	150	57.2 (13.5) 18-81	150	53.5 (14.9)	156	61.3 (11.9) 22-86	140	58.7 (14.5) 18-82	8.56 (3)#	<0.001
Days in hospital (days)	148	5.1 (10.4) 2-110	148	6.1 (6.2) 2-65	137	5.7 (4.7) 2-35	137	6.3 (6.2) 2-34	0.83 (3)▫	0.476
Gender	146		150		158		141		6.23(3)*	0.101
Female	61	42	63	42	85	54	69	49		
Male	85	58	87	58	73	46	72	51		
Highest education	149		150		155		138		24.78 (6)*	<0.001
Basic	36	24	27	18	58	37	37	27		
Second level	67	45	70	47	74	48	65	47		
Academic	46	31	53	35	23	15	36	26		
Type of admission	149		150		158		140		10.39 (3)*	0.016
Planned	119	80	109	73	113	72	88	63		
Emergency admission	30	20	41	27	45	28	52	37		
Previous experiences of hospital	150		149		156		141		238.13 (3)*	<0.001
Yes	44	39	133	89	148	95	127	90		
No	106	71	16	11	8	5	14	10		

* Chi-square statistics, Pearson Chi-Square (df), # ANOVA-Brown-Forsythe (Levene's test of homogeneity of variance not supported)

▫ ANOVA, F(df), pvalue (Levene's test of homogeneity of variance supported)

Table 2. Descriptive statistics of the OPPQNCS scales

Scale	No of items	Cyprus			Greece			Finland			Sweden			Test parameter	
		n	M (SD)	a	n	M (SD)	a	n	M (SD)	a	n	M (SD)	a	F (df)	p value
OPPQNCS	18	150	4.87 (0.77)	0.89	150	3.91 (0.94)	0.95	158	4.98 (0.80)	0.92	141	5.18 (0.68)	0.91	74.08 (3)#	<0.001
Responsiveness	5	149	5.31 (0.83)	0.85	150	4.52 (1.09)	0.92	158	5.45 (0.72)	0.82	141	5.66 (0.61)	0.87	53.25 (3)#	<0.001
Individualization	5	150	4.88 (1.06)	0.83	150	3.87 (1.15)	0.92	156	4.92 (0.96)	0.78	141	4.96 (0.89)	0.76	39.66 (3)▫	<0.001
Coordination	3	150	3.34 (1.65)	0.79	150	2.32 (1.25)	0.88	149	3.43 (1.64)	0.89	141	4.31 (1.30)	0.69	44.47 (3)#	<0.001
Proficiency	5	150	5.34 (0.72)	0.78	150	4.30 (1.00)	0.93	157	5.41 (0.67)	0.80	141	5.44 (0.68)	0.80	74.85 (3)#	<0.001

M: mean, SD: Standard deviation, a: Cronbach's alpha coefficient, # Brown-Forsythe robust test of equality of means (Asymptotically F distributed), ▫ ANOVA

hospitalization ($p < 0.001$). Specifically, the majority of the respondents had previous hospitalization and inpatient nursing care experience (Finland: 95%, Greece: 89%, Sweden: 90%), Cypriants' percentages were lower (39%). Lengths of stay ranged from 5.1 to 6.3 days; and did not differ significantly between countries ($p = 0.476$).

Overall means for the quality of cancer nursing care as measured by the OPPQNCS were high and ranged from 3.91 in Greece to 5.18 in Sweden (Table 2). Regarding the subscales, in all countries the highest mean was for the responsiveness sub-

scale (5.66 in Sweden) and the lowest for the coordination subscale (2.32 in Greece).

Comparisons of cancer patients' perceptions of the quality of nursing care between the four countries showed a statistically significant difference in the total OPPQNCS scale score ($p < 0.001$) and in all the instrument subscales: responsiveness ($p < 0.001$), individualization ($p < 0.001$), coordination ($p < 0.001$) and proficiency ($p < 0.001$). The lowest scores in all subscales were observed in Greece, and the lowest one was seen in the coordination subscale (2.32 ± 1.25 ; Table 2).

Table 3. Multifactorial analysis of variance for the OPPQNCS controlled by respondents' socio-demographic and hospital-related variables

Dependent variable	n	OPPQNCS total	
		F (df) p-value	Mean (96% CI) [□]
Model		28.93 (8) < 0.001	
Intercept		927.48 (1) < 0.001	
Country		71.32 (3) < 0.001	
Cyprus	148		4.80 (4.66-4.95) a, d
Greece	149		3.95 (3.80-4.11) b,c,d
Finland	152		5.05 (4.89-5.22) c
Sweden	136		5.26 (5.10-5.42) a,b
Highest education		0.65 (2) 0.525	
Basic	155		4.77 (4.63-4.92)
Second level	273		4.72 (4.61-4.83)
Academic	157		4.81 (4.66-4.96)
Type of admission		2.04 (1) 0.154	
Planned	420		4.82 (4.73-4.91)
Emergency	165		4.71 (4.57-4.85)
Previous experience of hospitalization		3.29 (1) 0.070	
Yes	444		4.66 (4.59-4.76)
No	141		4.86 (4.69-5.03)

95% CI: confidence intervals, df: degrees of freedom, [□] Letters refer to between-country differences

Cancer patients assessed responsiveness to be the highest in Greece, Finland and Sweden, while proficiency was assessed the highest among the Cypriot patients. In all four countries, the lowest assessments were given for coordination. In general, cancer patients assessed the quality of nursing care to be moderate (Mean OPPQNCS total 3.19-5.18) (Table 2).

Cross-country differences were first examined by simple ANOVA, and some differences were found. As the samples differed, a further analysis was conducted using multivariate analysis of variance where background factors were taken into account in the analysis. This revealed that only the patient country was significantly related with the quality of provided care (Table 3).

Discussion

This study aimed to explore and compare cancer patients' perceptions of the quality of nursing care in four European countries (Cyprus, Finland, Greece, and Sweden). Overall, cancer patients' impressions of the quality of nursing care were high. This finding is very important because high quality of nursing care is associated with better treatment outcomes [15,16]. A majority of the participants in the whole sample had previous experience of hospitalization, with the exception of patients from Cyprus. A possible explanation for this result is that most of the participating patients were newly diagnosed or had received care as

out-patients. Based on the healthcare model employed in Cyprus, most patients are treated in the community or in day-care centers and only those with more severe illness or facing treatment-related side effects are admitted to hospital. The findings indicated that cancer patients' perceptions of the quality of nursing care differed significantly between the four countries. The differences found in all subscales (OPPQNCS) may be attributed to various reasons, such as delivery of nursing care and cultural differences. Cancer patients consider continuity of nursing care as a very important element of the quality of nursing care [17]. The lowest values of the OPPQNCS scale, especially in the coordination subscale, were found in Greece. Specifically, the item "The nurses told me which nurse was primarily responsible for coordinating my care" was answered negatively by most patients (33.3% almost never, and never 34.7%), a finding that may be explained by the medically oriented health care system and the great shortage of nurses, as well as the high number of nursing assistants in the country [18]. In addition, the implementation of the task-oriented system in Greek hospitals leads to fragmentation and low quality of care, a finding that is supported by many previous studies [19].

Finland and Sweden had higher scores for quality of care, and the results in both of these Nordic countries were quite similar because they have specialist cancer nurses, whereas in Cyprus

and in Greece, this role has just been introduced. Responsiveness was reported to be very good by the patients in both the Swedish and Finnish samples. However, coordination of care was regarded as only moderate by the Finnish respondents, and the perception was more critical compared to Swedish respondents. Coordination may be disrupted by reforms and varies significantly between sites [20]; this was true in Sweden at the time of the data collection. However, this does not explain the Swedish results. In Finland, cancer centers are undergoing development towards personalized medicine and biobanks [21], and the data were collected prior to this reform. Previously, it has been found out that the quality of care is significantly improved by relational coordination [20]. Therefore, follow-up of patients' perceptions of care quality is needed.

Another possible explanation for the differences concerning the quality of nursing care between countries may be due to the health characteristics of the sample, such as various disease stages and symptom severity. Patients receiving palliative care may have been included in the Greek sample [22]. Given the development of cancer treatment in Europe and in other areas, care is to a growing extent provided in out-patient clinics, and those hospitalized for a few days may have been too ill to participate. Cancer patients' health condition has been found to have an impact on how people assess their care, especially service responsiveness [23].

Despite the difficult working conditions in Greek hospitals due to the economic crisis [24], patients still answered positively to the items concerning individualized care. For example, patients' responses to the item "The nurses knew what I had been through" were often (34.7%), almost always (21.3%) and always (12%). More-

over, most patients responded positively to the item "The nurses helped me get the information I wanted", a finding that is also emphasized by previous researchers of patients with cancer who assessed their quality of care as poor when they received little information and guidance [7]. The item "The nurses respected my dignity" from the responsiveness subscale was highly rated by the Greek patients. The items "The nurses were skillful" and "The nurses knew what they were doing" from the proficiency subscale also showed high positive percentages, which supports the patients' acknowledgement of the technical competence of the nurses. This finding is confirmed by a recent study concerning the caring behaviors in cancer care in Greece [25].

Unfortunately, there are limited studies focusing on patients' perceptions of the quality of care in the oncological setting. Radwin's investigation led to the subsequent development of the OPPQNCs [8].

Moreover, the clinical status of patients and the professional practice environment should be further studied. Managerial factors such as staffing/nursing care delivery models that largely influence the ability of nurses to meet the needs of patients should also be explored by more focused studies.

Finally, patients' perceptions/assessments of the quality of care and nursing care are important for the development of patient-centered care and services. However, the results provide evidence for the development of more patient-centered European quality cancer care, as the incidence of cancer is increasing in Europe.

Conflict of interests

The authors declare no conflict of interests.

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