



CLINICAL SCHOLARSHIP

Surgical Patient Satisfaction as an Outcome of Nurses' Caring Behaviors: A Descriptive and Correlational Study in Six European Countries

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Key words

Caring, Caring Behaviours Inventory, patient satisfaction, Patient Satisfaction Scale, cross-national, European, stepwise multiple regression analysis

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Accepted June 8, 2011

doi: 10.1111/j.1547-5069.2011.01413.x

Abstract

Purpose: Theoretically, patient satisfaction is correlated with nursing care, but there is not sufficient evidence to support it. The aim of this study was to address three research questions: (a) What is the correlation between caring as perceived by patients and patient satisfaction? (b) Are there differences across various countries on the correlation on caring as perceived by patients and patient satisfaction? (c) Do caring behaviors affect patient satisfaction?

Design: A multicenter correlational design was adopted involving surgical patients from six European countries: Cyprus, Czech Republic, Greece, Finland, Hungary, and Italy.

Methods: A convenience sample of 1,565 patients was recruited in autumn 2009. The short version of the Caring Behaviours Inventory (CBI; 24 items) and Patient Satisfaction Scale (PSS; 11 items) were used. Data analysis included descriptive statistics, as well as correlation analysis and stepwise multiple regression, to examine relations between caring behaviors and patient satisfaction.

Findings: According to the patients involved, nurses performed caring behaviors between very frequently (score = 5) and always (score = 6). Patient satisfaction with nursing care was also high, between satisfied (score = 3) and very satisfied (score = 4). A positive correlation emerged between CBI and PSS ($r = 0.66, p < .01$) ranging between countries from 0.27 to 0.85 (Czech Republic $r = 0.27$, Cyprus $r = 0.76$, Finland $r = 0.71$, Greece $r = 0.85$, Hungary $r = 0.63$, and Italy $r = 0.45 [p < .01]$). Among the CBI dimensions, "connectedness" mainly explains patient satisfaction ($R^2 = 0.404, p < .001$), followed by "assurance" ($R^2 = 0.032, p < .001$) and "respectful" ($R^2 = 0.005, p < .001$).

Conclusions: Caring behaviors enacted by nurses determine a consistent proportion of patient satisfaction. This association between them suggests several implications for nursing education, practice, and management.

Clinical Relevance: The results may be utilized by policymakers, nurse ward managers, nurse educators, and clinical nurses as a background for taking appropriate measures to improve nursing care provided, thereby enhancing patient satisfaction.

Caring is a core concept of nursing. Caring is an interpersonal process based on professional growth, expert competence, and sensitivity (Finfgeld-Connett, 2008) and is one of the ethical bases of nursing (Watson, 1985). A caring relationship generates a caring moment (Watson & Foster, 2003) in which an encounter between patient and nurse produces physically and psychologically positive outcomes both for patients and nurses. Patients have reported growing self-esteem, less anxiety, a sense of existential growth, awareness, and self-efficacy (Finfgeld-Connett, 2008). Nurses have experienced a sense of competence, capability in managing complexity and uncertainty, decision-making effectiveness, and in-depth understanding of patients' experiences (Brilowski & Wendler, 2005; Finfgeld-Connett, 2008).

Although some evidence is already available, there is uncertainty about the state of caring knowledge in nursing (Watson, 2008). Caring consequences are not easily identifiable (Cutcliffe & McKenna, 2005), though patient satisfaction is considered one of the outcomes theoretically linked with caring behaviors enacted by nurses: it describes the subjective evaluation of patients' cognitive and emotional reactions to the comparison between caring expectations and caring received (Merkouris, Papathanassoglou, & Lemonidou, 2004; Wagner & Bear, 2008). However, there is a lack of empirical data on the effects of caring on patient satisfaction. This, in turn, has effects on caring as an imperative of nursing education, both at the basic and advanced levels (Cook & Cullen, 2003), on the scientific debate aiming to discover and describe what caring is, in the context of nursing (Cutcliffe & McKenna, 2005), and also on creating work environments that support nurses' caring (Laschinger & Leiter, 2006).

Another reason for investigating the area of caring and patient satisfaction from a multicenter perspective is the freedom of movement within European countries and the increasing mobility of both nurses and patients. This situation requires alignment of educational programs, a fact that has forced healthcare policymakers across Europe to focus on the establishment of common bases on nursing education so as to safeguard equal opportunities for quality care for every European citizen in the

Union. In 1993, the Bologna Process established the single most important higher education revolution that has taken place in Europe (Davies, 2008). The Bologna Process focuses on a gradual convergence toward a common framework of qualifications from educational programs. It affects approximately 6 million European nurses (European Parliament, 2010), more than 499 million European citizens (European Commission, 2010), and millions of healthcare workers. This revolution, aiming to develop a common European cultural dimension, affects nursing migration, careers, nursing management policies, and research opportunities. Although European unification opened the borders of each country for nurses, few international cross-cultural nursing studies (Suhoonen, Saarikoski, & Leino-Kilpi, 2009) are available. Such studies are important for advancing nursing knowledge and practice across Europe.

In this study, the investigators aimed to answer the following research questions: (a) What is the correlation between caring as perceived by patients and patient satisfaction? (b) Are there differences across various countries on the correlation on caring as perceived by patients and patient satisfaction? (c) Do caring behaviors affect patient satisfaction?

Literature Review

Nursing as a variable associated with patient outcomes has been mainly studied in large observational research conducted in North America and only recently in European countries. As stated by Griffiths (2009), the majority of the available studies on nursing outcomes are mainly based on administrative data from 10 years ago rather than focusing on the patients' actual perceptions, and they have mainly adopted retrospective study designs instead of being actual or prospective based.

Within the international framework of measuring the relationship between nursing and nursing outcomes, caring has received less attention, while other nursing dimensions, such as surveillance, are well described (Aiken, Clarke, Sloane, Sochalski, 2002; Kutney-Lee, Lake, & Aiken, 2009). In a review by Clarke and

Donaldson (2008), the authors stated that more robust measurement instruments and new theoretical models are needed to capture variations in outcomes. Furthermore, they suggested that future research must tackle the "black box" (Clarke & Donaldson, 2008, p. 19) of nursing practice by acknowledging the complexity of nursing assessment and also the anomalies in the evidence base, and perhaps most importantly, the need for taking some intellectual and political risks. Additionally, Mick and Mark (2005) suggested there is a necessity to develop more theory to support the relationship between nursing and nursing outcomes.

Patient Satisfaction as a Nursing Outcome

Patient satisfaction with nursing care has been defined as the patient's opinion on the received care from nursing personnel (Merkouris et al., 2004; Wagner & Bear, 2008). Key elements of patient satisfaction are the patients, nurses, and organizational environment (Wagner & Bear, 2008). The main influences on patient satisfaction that have been reported are the patients' expectations, patients' demographics, patients' previous experience as care receivers, length of stay, and cultural and social aspects of personal life (Wagner & Bear, 2008). Furthermore, nurse caring behaviors have also been considered as important for influencing satisfaction (Larrabee et al., 2004; Wagner & Bear, 2008).

In a study involving 362 medical, surgical, and intensive care patients, Larrabee and colleagues (2004) identified through causal modeling, using the Caring Behaviors Inventory (CBI; Wolf, Giardino, Osborne, & Ambrose, 1994), that patient-perceived nurse caring is the major predictor of patient satisfaction. Han, Connolly, and Canham (2003) studied 477 surgical and medical patients, documenting the relationship between patient satisfaction and nursing care within a primary nurse working unit in a large Taiwanese teaching hospital. Previously, Wolf, Colahan, and Costello (1998) documented similar results with 335 patients who responded to a mailed questionnaire on their experience of hospitalization within the last year for medical or surgical care. Unfortunately, there is no evidence on the relationship between caring and patient satisfaction within European countries.

As recently documented by Griffiths, Jones, Maben, and Murrells (2008), patient satisfaction in association with nursing care is an important nursing outcome. A nursing outcome is a condition, behavior, attitude, or measurable perception of patients or their families, conceptualized as a variable and largely influenced by or

"sensitive" to nursing care (Moorhead, Johnson, & Maas, 2003). Patient satisfaction is a critical outcome for several reasons: It influences further health service utilization decision making (e.g., dissatisfied patients may refuse follow-up care; Laschinger, Hall, Pedersen, & Almost, 2005), and it influences the level of patients' adherence or compliance to prescribed treatments, regimens, and recommendations (e.g., dissatisfied patients following anticoagulant therapy may refuse to follow a nurse's recommendations; Wagner & Bear, 2008). Appropriate utilization of healthcare services and following prescribed treatments and recommendations might influence the patient's health status and the clinical severity of his or her disease (e.g., decreasing mortality as documented by Nolte & McKee, 2008).

Methods

Study Design and Setting

A multicenter correlational design was adopted in six countries (Cyprus, Czech Republic, Greece, Finland, Hungary, and Italy). The participation of the specific countries was based on a preexisting established cooperation among them; therefore, for convenience purposes these counties participated in this study. Participating hospitals and wards were selected according to availability, proximity, and convenience by each partner. A total of 88 wards from 34 general hospitals were included: Cyprus (15 wards from 5 hospitals), Czech Republic (19 wards from 5 hospitals), Finland (14 wards from 7 hospitals), Greece (16 wards from 5 hospitals), Hungary (10 wards from 5 hospitals), and Italy (14 wards from 7 hospitals). The selection of hospitals and wards was based on convenience (based on each partner's access to premises).

Instrumentation

Necessary data were collected with the use of the Caring Behaviours Inventory 24-item version (CBI-24) and Patient Satisfaction Scale (PSS). A separate questionnaire including demographic background was also distributed (which also included a question on the self-perceived level of health condition on behalf of the patient).

The CBI-24 (Wu, Larrabee, & Putnam, 2006) is based on a conceptual definition reporting nurse caring as an interactive and intersubjective process that occurs during moments of shared vulnerability between nurses and patients (Watson, 2008). It was developed by Zane Wolf and is based on Watson's Transpersonal Caring Theory (Watson, 1985). This instrument was selected because of its conceptual-theoretical basis clarity, its

consistent language, and its comprehensible instructions. It has also been reported that it requires the shortest length of time to complete (Watson, 2008). The instrument includes four factors: "assurance of human presence" (eight items), which deals with patients' needs and security; "knowledge and skill" (five items), related to nurses as skillful and educated persons; "respectful deference to the other" (six items), dealing with how nurses show interest for the patients; and "positive connectedness" (five items), corresponding to the need for nurses to be ready to help the patients (Wolf et al., 1994). To each item, patients are requested to answer using a 6-point Likert scale (1 = *never*, 6 = *always*).

The PSS (Kim, 1991) examines patients' satisfaction with nursing care and is based on 11 items evaluated on a 4-point Likert scale (1 = *very dissatisfied*, 4 = *very satisfied*). The PSS measured patients' satisfaction with nursing care through three factors: "technical-scientific care needs" (three items), "information care needs" (five items), and "interaction-support care needs" (three items; Suhonen, Leino-Kilpi, Välimäki, & Kim, 2007).

Preliminary authorizations for using the CBI-24 and PSS were requested and obtained from the authors (Wolf & Kim, personal communication, 2008). Agreements were also obtained for the copyright of each translated version, and the authors also consented to any modifications that the research group deemed necessary.

Both instruments (CBI-24, PSS) were translated into the participating countries' languages by respective partner, using the American-English versions of both. The translation process was not performed in the Finnish language for the PSS because it had already been previously validated (Suhonen et al., 2007). Translation followed a forward and back translation processes (MAPI, 2009). Translated versions were first discussed within a national panel of experts in order to assess their content validity. A discussion within the international group followed to finalize the translation process, ensuring the content, concept, and semantic equivalence of the instruments. Further advice was obtained by the authors of the instruments on the administration process and other queries that arose during the meeting. Questionnaire reliability was assessed using Cronbach's α coefficient. For the CBI, Cronbach's α of pooled sample was 0.96 (ranging from 0.87 to 0.97 for each country sample); for the PSS, Cronbach's α pooled sample was 0.95 (ranging from 0.94 to 0.96 for each country sample).

Sampling and Sample

Power analysis was performed using the NQuery Advisor Statistical program in order to determine the appropriate sample size of patients, with power 95% and

$\alpha = 0.01$. It was assumed that a difference of ± 0.5 between the means in the items of the CBI-24 was clinically important (SD 0.9), which gave an effect size of 0.0358 and a sample size of 122 patients, and a difference of ± 0.25 between the means in the items of the PSS was clinically important (SD 0.6), which gave an effect size of 0.0194 and a sample size of 223 patients. Therefore, the maximum sample size between the two was selected, indicating that a total of 223 completed questionnaires were needed from each country. A total of 1,971 questionnaires were distributed to a convenience sample of surgical patients admitted in the hospital selected by partners; 1,659 were returned. Of these, 1,565 were eligible for analysis (response rate 84.2% on distributed and returned questionnaires and response rate 78.0% on distributed and eligible for analysis questionnaires).

Data Collection Procedures

Data collection was performed in autumn 2009. Initially each admitted surgical patient for planned or urgent general surgery (e.g., abdominal, gastroenterical) who was able to communicate and to give his or her consent received a letter after 48 hr of hospital admission. This letter was given to them by contacts appointed by each country partner, explaining the aims of the study and assuring them of the anonymity and confidentiality of the collected data. Hence, patients received the CBI-24 and PSS with a background data sheet. Return of completed questionnaires was considered as consent for participation. To further safeguard the confidentiality of data, the following procedures were adopted: (a) The completed questionnaires were returned in a sealed envelope and then placed in a box clearly identifiable in the ward. This box was regularly emptied by those in charge of collecting the questionnaires (who were not working in the ward). (b) The questionnaires were completed before leaving the ward, on the day of patients' discharge. (c) Patients were assured they could refuse participation or withdraw from the study, without this affecting by any means the care provided to them.

Authorizations and Ethical Issues

Each country was responsible for obtaining ethical approval and access to research premises according to local requirements. Completed instruments were sent by each participating country to the project leader country (Cyprus). In each country, data were protected securely (both in electronic and paper form) with restricted access.

Data Analysis

Statistical analysis was performed centrally by the project coordinator country (Cyprus). Data were analyzed with SPSS v16 (SPSS Inc., Chicago, IL, USA) using descriptive and inferential statistics. Analysis was performed on the overall sample and at the country level. Descriptive statistics included frequencies, percentages, means, and standard deviations. For each instrument (CBI-24 and PSS), the rank of the average scores obtained by each factor and item was also measured. Inferential statistics examined the relations between the variables of interest, using correlation and regression analysis. Pearson correlation coefficients were calculated between the overall scores obtained using the two tools and within factors. The predictive ability of the factors of the CBI was evaluated by regressing PSS on the four CBI factors and using a stepwise multiple regression analysis. Level of statistical significance accepted was $p < .05$.

Findings

Participants' Descriptions

A total of 1,565 patients participated in the study; approximately half of them were females (51.2%, 801 of 1,565). Their average age was 54.4 years (SD 16.7), and the majority had at least secondary-level education (73.9%, 1,156 of 1,565). Participants were hospitalized on average for 9.7 days (SD 11.9) after having being admitted mainly for planned surgery (67.7%, 1,059 of 1,565). The majority of the patients (75.9%, 1,189 of 1,565) had previous hospital experience and reported their health status as ranging from fair to very good (91.9%, 1,438 of 1,565). Comparisons—using analysis of variance and chi-square tests—showed significant differences between countries on demographics ($p < .001$; **Table 1**).

Caring and Satisfaction as Perceived by Patients

Overall, the CBI-24 index yielded an average score of 4.9 (SD 0.8, minimum 1, maximum 6), with responses following approximately the normal distribution (skewness -0.88 , kurtosis 0.57). The CBI dimension “knowledge and skills” showed the highest mean score (mean 5.3, SD 0.8), and “positive connectedness” showed the lowest mean score (mean 4.5, SD 1.1; **Table 2**). Ranking CBI items by average score, the first 3 items out of the 24 were “knowing how to give yes injections, IVs, etc.” (factor “knowledge and skill,” mean 5.4, SD 0.9), followed by “giving the patient’s treatments and medications on time” (factor “assurance of human presence,”

mean 5.4, SD 0.9), and “managing equipment skillfully” (factor “knowledge and skill,” mean 5.3, SD 0.9).

Overall, the PSS yielded an average score of 3.3 (SD 0.58, minimum 1, maximum 4), with responses following a distribution skewed to the left, tending toward positive answers (skewness -1.14 , kurtosis 1.94). The technical-scientific factor of the PSS showed the higher mean score (mean 3.4, SD 0.6), and the informational factor showed the lowest mean score (mean 3.2, SD 0.6; see **Table 2**). Ranking PSS items by average score, the first 3 items out of the 11 were “general professionalism of the nursing staff” (factor “technical-scientific,” mean 3.5, SD 0.7), “the way the nursing staff approached and dealt with me when I was ill” (factor “technical-scientific,” mean 3.4, SD 0.7), and “standard of care at this hospital” (factor “interactional,” mean 3.4, SD 0.7).

Correlation Between Caring and Satisfaction

The correlation between the total scores of the CBI-24 and PSS was statistically significant and positive ($r = 0.66$, $p < .001$), ranging between countries from 0.27 to 0.85 (Czech Republic $r = 0.27$, Cyprus $r = 0.76$, Finland $r = 0.71$, Greece $r = 0.85$, Hungary $r = 0.63$, and Italy $r = 0.45$ [$p < .001$]). The correlation coefficients between PSS and the factors of the CBI ranged from $r = 0.50$ (PSS with “assurance of human presence”) to $r = 0.62$ (PSS with each of the remaining three CBI factors; $p < .001$).

Variance of Patients' Satisfaction Explained by Perceived Caring Behaviors

Using a stepwise multiple regression model on factors affecting the PSS, 44.1% of the PSS variance is explained by all factors of the CBI. The main factor that explains patient satisfaction is “connectedness” (40.4% of satisfaction explained, $p < .001$), followed by “assurance” (3.2% of satisfaction explained, $p < .001$), and “respectful” (0.5% of satisfaction explained, $p = .001$). The factor “knowledge and skills” does not contribute to explaining patient satisfaction. Beta coefficients were all positive, showing that an increase in the value of each CBI factor would cause an increase in the value of the PSS index (**Table 3**).

Discussion

As reported before, most of the studies conducted on nurse caring and its relationship with patient satisfaction as an outcome have focused on data deriving from retrospective patients’ data rather than on the actual

Table 1. Participants' Descriptions

Variable	All	Cyprus	Czech Republic	Finland	Greece	Hungary	Italy
N	1,565	220	280	291	250	274	248
%	100	14.1	17.9	18.6	16.0	17.5	15.9
Age							
Mean	54.4	47.1	51.6	59.1	53.4	56.3	57.3
SD	16.7	18.2	17.1	14.4	18.4	13.5	15.8
Minimum–maximum	17–94	17–86	18–94	17–88	18–90	20–86	17–88
Gender (%)							
Male	48.8	54.7	54.0	46.8	52.5	33.8	52.2
Female	51.2	45.3	46.0	53.2	47.5	66.2	47.8
Education (%)							
None	1.5	2.3	0.7	1.1	3.7	0	1.2
Primary	24.7	23.8	16.8	47.4	24.0	13.7	20.7
Secondary	40.6	51.4	52.0	24.1	37.8	53.9	25.2
College	20.6	11.7	13.6	20.4	15.9	21.1	41.3
University	12.7	10.7	16.8	6.9	18.7	11.3	11.6
Days of hospitalization							
Mean	9.7	6.3	10.6	6.0	11.0	16.7	6.7
SD	11.9	7.5	9.7	5.6	12.6	18.8	7.6
Minimum–maximum	2–120	2–75	2–62	2–43	2–120	2–110	2–78
Previous hospital experience (%)							
Yes	76.0	73.8	73.4	92.0	67.3	81.3	61.1
No	21.5	24.8	23.4	7.7	29.8	16.0	33.9
Unknown	2.4	1.4	3.2	0.3	2.8	2.6	5.0
Admission (%)							
Planned	67.7	45.1	62.1	68.0	62.2	83.5	83.8
Emergency	32.3	54.9	37.9	32.0	37.8	16.5	16.2
Perceived health condition (%)							
Fair to very good	91.9	92.6	87.0	95.4	96.3	83.3	98.5
Bad to very bad	8.2	7.4	13.0	4.6	3.7	16.7	1.5

perceptions of patients (Griffiths, 2009). This might have led to the report of results not reflecting the current (at the time that these studies were conducted) situation. This study is a report of contemporary, actual findings, based on recent data. Therefore, the results reflect the current situation, as this appears among patients.

Table 2. Caring Behaviours Inventory (CBI) Factors and Patient Satisfaction Scale (PSS) Factors

CBI factors	Mean	SD	Minimum–maximum	Cronbach's α
Knowledge and skills	5.3	0.8	1.0–6.0	0.882
Assurance	4.9	0.9	1.0–6.0	0.906
Respectful	4.6	1.0	1.0–6.0	0.898
Connectedness	4.5	1.1	1.0–6.0	0.879
PSS factors				
Technical-scientific	3.4	0.6	1.0–4.0	0.841
Interaction-support	3.3	0.6	1.0–4.0	0.906
Informational	3.2	0.6	1.0–4.0	0.856

Table 3. Stepwise Multiple Regression of the Four Factors of the Caring Behaviours Inventory on the Patient Satisfaction Scale

Variable	R^2	R^2 change	Beta coefficient	p
Connectedness	0.404	0.404	0.126	<.001
Assurance	0.436	0.032	0.167	<.001
Respectful	0.441	0.005	0.111	.001
Knowledge and skills	0.441	0.000	0.036	.152

Caring and Satisfaction as Perceived by Patients

From the point of view of the surgical patients involved, nurses carry out caring behaviors between very frequently (score = 5) and always (score = 6). According to the patients' perceptions, the "knowledge and skills" factor is considered the most frequent caring behavior, while within the item "knowing how to give injections, IVs and manage equipment" gained the first position, in line with previous studies (Larsson, Widmark-Peterson, Lampic, von Essen, & Sjöden, 1998; Tuckett, Hughes, Schluter, & Turner, 2009). These findings indicate the

high relevance given by patients to instrumental caring behaviors, probably because technical nursing activities are recognized more by patients than other activities (Oflaz & Vural, 2010) and considering they take the greatest proportion of nurses' time at the bedside. Nevertheless, many of the research studies on caring have been conducted among oncology patients (Papastavrou, Efstathiou, & Charalambous, 2011), where the closer relationship developed with nurses more heavily influenced the results. As stated by Watson (1985), instrumental care could be the key to establishing a caring moment, but this may not describe the whole concept of caring. For nurses, in fact, caring is related mostly to expressive and relationship behaviors (O'Connell & Landers, 2008) and less to instrumental care (Papastavrou & Efstathiou, 2010). These differences in caring behavior perspectives between patients and nurses need to be addressed in practice.

Patient satisfaction in perceptions of nursing care is also high, in line with previous studies (Suhonen et al., 2007; Wolf et al., 1998). Patient satisfaction has become an established outcome indicator of the quality and the efficiency of healthcare systems (Merkouris et al., 2004). It is now an important criterion and has become an ethical obligation that has the potential to humanize care. Johanasson, Oleni, and Fridlund (2002) described several factors within nursing care that influenced satisfaction as the environment in which caring was provided and the relationship between nurses and patients. However, satisfaction with "technical-scientific care needs" was rated the highest, while within this item "general professionalism of the nursing staff" received higher average satisfaction scores than those reported by Larrabee and colleagues (2004).

Caring and Satisfaction Correlations Between Countries

Although the Pearson correlation coefficients for the relations between total scores for caring and satisfaction vary from 0.27 to 0.85 between countries, all the correlations are statistically significant ($p < .001$) and positive, indicating that for all countries large values in caring behaviors are significantly associated with large values in patient satisfaction. These differences might be explained by different perspectives.

At the macrolevel, which corresponds to policy (Bortoluzzi & Palese, 2010), differences in healthcare systems may explain the variations between countries, especially those in a stage of transition (Organisation for Economic Co-operation and Development [OECD], 2009) and have not fully established a national plan for healthcare yet. Moreover, the differences in patient satis-

faction may be attributed to the different levels of educational background that nurses received in the participating countries (education spanning over a 3- and 4-year period, diploma and bachelor's levels) and to the impact of the educational nursing model adopted (e.g., technical vs. academic). Differences in culture (this study included patients coming from North, Central, and South Europe) may have also led to the observed differences. Shortage of nursing personnel in some countries (OECD, 2009) as well as caring delivered by other members of staff or relatives in other counties (e.g., Greece, Italy) may contribute to the difference. Also, recent changes in national health services might explain low patient satisfaction; for instance, in the Czech Republic, national healthcare reform started in 2008, and because patients have to pay €2.5 per each hospital day and are not well informed on the changes occurring, they express a lot of dissatisfaction.

At the mid-level (Bortoluzzi & Palese, 2010), which corresponds to nursing services and nursing education, job satisfaction among nurses may be different according to country, as documented in previous studies (Burston & Stichler, 2010). As a caring antecedent, nurses' job satisfaction may determine differences in patient satisfaction (Cutcliffe & McKenna, 2005). Also, the proportion of registered nurses (RNs), patient-to-RN ratio, and RNs' years of service might be different in different countries and within countries, as reported by Griffiths (2009). All the above may be highly related to patient satisfaction.

At the micro-level, where nurses and patients encounter each other (Bortoluzzi & Palese, 2010) different nursing care models (e.g., functional model vs. team nursing or primary care model) might influence the patients' perceptions of caring (Han et al., 2003)

Variance of Patients' Satisfaction Explained by Perceived Caring Behaviors

From stepwise regression analysis including aggregate data from all countries together, caring behaviors, as perceived by patients, explain an important proportion of patient satisfaction (44.1%), supporting earlier results (Han et al., 2003; Larrabee et al., 2004; Wolf et al., 1998). The high mean of the CBI factor "knowledge and skills" implies that this factor is perceived by patients as the most frequently met caring behavior. However, this factor has no influence on patient satisfaction: patients have shown that their satisfaction is mainly determined by "positive connectedness," a factor composed of the following items: "giving instructions or teaching the patient," "spending time with the patient," "helping the patient grow," "being patient or tireless with the patient," and "including the patient in planning his or her care." "Positive

connectedness" is multidimensional and implies noninstrumental caring behaviors such as closeness, interaction, relationship, involvement with patients, and time spent with them. The factor of "positive connectedness" yielded a lower mean score (mean 4.5, *SD* 1.1), showing that these attributes are perceived by patients as less frequently used by nurses.

However, satisfaction in this study is related to "positive connectedness," and this may be explained by the findings of Henderson and colleagues (2007), who found that opportunities to develop closeness were limited due to bureaucratic demands, increased workload, and reduced staffing levels. Therefore, the results of the current study indicate that patients' satisfaction was affected by their relationship and connectedness with nurses, which they found missing from the nurses. They perceived that their nurses had the necessary knowledge and skills, but these were not important in terms of their overall satisfaction with their care.

Limitations

There are some limitations with this study that should be taken into consideration when interpreting the results. A convenience sample was used for gathering data, a fact that limits the findings' generalizability (Bowling, 2009). Geographical factors might also have influenced the results; for example, Cypriot data were gathered from the whole country, whereas in other countries data were gathered from a specific geographical area, although every effort was made to recruit samples with patients coming from all over these countries. There is also heterogeneity in some patients' characteristics (length of hospitalization, admission typology, demographics) that should be taken into consideration. It should be stated, however, that every effort was made to enhance the validity of this study: the same inclusion and exclusion criteria were used, the same processes for gathering data were followed, and a network of communication was established for resolving issues.

Conclusions

Caring behaviors enacted by nurses determined a consistent proportion of patient's satisfaction. Satisfaction is related to patients' safety because it influences further health service utilization and the level of patients' adherence or compliance to prescribed treatments, regimens, and recommendations. Within the emerging European common nursing education frameworks stipulated by the Bologna Process Declaration, developing

education strategies and measuring their effectiveness in the promotion of students' connectedness with patients is crucial. At the bedside, there is a need to support nurses in their efforts to be connected and to interact with patients with appropriate models of care delivery, testing their effectiveness in this purpose. Reviewing periodically data on patient satisfaction might help nurse leaders to understand nursing service or the impact of nursing workforce redesign, particularly in times of economic crisis where decisions might negatively affect the nursing workforce and working conditions, and threaten nurses' time for staying connected with patients. Returning these data to nurses is also important: maintaining high levels of patient satisfaction is important feedback for nurses and may contribute to nurses' satisfaction.

Acknowledgments

We thank Professors Jane Wolf, Suzie Kim, and Helena Leino-Kilpi for their permission to use the questionnaires. The project was funded by the Cyprus University of Technology.

Clinical Resources

- The Concept of Care In Nursing, <http://www.cut.ac.cy/careProject/>
- How does satisfaction with the health-care system relate to patient experience? <http://www.who.int/bulletin/volumes/87/4/07-050401.pdf>
- Eurostat, <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home> Eurostat, <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

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