Development and Testing of the Oncology Patients' Perceptions of the Quality of Nursing Care Scale

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Purpose/Objectives: To develop and test the Oncology Patients' Perceptions of the Quality of Nursing Care Scale (OPPQNCS).

Study Design: Development and psychometric testing of a scale to measure perceptions of patients with cancer of quality of nursing care.

Setting and Sample: Hematology-oncology service of a comprehensive center in a New England tertiary medical center. The sample consisted of 436 patients in active treatment for cancer; two-thirds were female, and the mean age was 54.8 years.

Methods: Eight subscales and 112 initial items were developed from concepts and data from a grounded theory study of patients' perspectives of the quality of their cancer nursing care. Fifty-nine items resulted from an expert panel's review for content validity. Construct validity was tested using exploratory factor analysis. Principal components analyses (PCA) with promax (oblique) rotation were conducted. Criteria for item retention were a factor loading of greater than or equal to 0.4 and unambiguous loading on one factor. Internal consistency reliability was determined using coefficient alpha.

Findings: The initial PCA yielded four factors that explained 81% of the variance. Three forced four-factor solutions using PCA and promax rotation were required for all items to meet criteria. The final scale included 40 items (alpha = 0.99) in four subscales: responsiveness (22 items, alpha = 0.99), individualization (10, 0.97), coordination (3, 0.87), and proficiency (5, 0.95). A short form (18 items, alpha = 0.97) was created using stepwise regression.

Conclusions: Psychometric properties indicated that both OPPQNCS forms adequately measure cancer nursing care quality from the patient's perspective.

Implications for Nursing: The OPPQNCS holds promise for nurses who wish to monitor and improve the quality of patient-centered cancer nursing care and those who wish to investigate relations among care quality and healthcare system characteristics, patient characteristics, and nurse sensitive patient outcomes.

Key Points . . .

- The Oncology Patients' Perceptions of the Quality of Nursing Care Scale (OPPQNCS) was developed from a qualitative study-generated middle range theory to measure the quality of cancer nursing care from the patients' perspective.
- The OPPQNCS comprises four subscales: responsiveness, individualization, coordination, and proficiency.
- Patients complete the OPPQNCS by ranking the frequency of nursing activities that represent care processes.

Background

Patients' perceptions of nursing care have been measured using patient satisfaction scales, scales based on conceptualizations of care quality from professional nurses' perspectives, and scales developed with some patient input. Although patient satisfaction frequently has served as a proxy for the quality of nursing care (McDaniel & Nash, 1990), this construct may be too narrow to fully reflect the quality of nursing care (Dozier, Kitzman, Ingersoll, Holmberg, & Schultz, 2001; Lin, 1996). For example, after developing the Care/Satisfaction Questionnaire (CARE/SAT) for patients with cancer, Larson and Ferketich (1993) questioned whether patient satisfaction and patients' perceptions of nurse caring were conceptually equivalent. Similarly, nurse and health services researchers, among others, have proposed that the "patient's perception of being

The patient's perception of care is an important indicator of healthcare quality, according to expert panels of the American Academy of Nursing (Mitchell, Heinrich, Moritz, & Hinshaw, 1997) and the Institute of Medicine (IOM) (Committee on Quality of Health Care in America, IOM, 2001), as well as the Agency for Healthcare Research and Quality (1998) and healthcare advisory groups (President's Cancer Panel, 1999). Thus, the development of valid and reliable measures of patients' perceptions of care is vital to investigations related to the quality of care and variables such as patient outcomes, healthcare system characteristics, and patient characteristics. The purpose of this study was to develop and test an instrument that measures the quality of cancer nursing care from the patient's perspective.

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cared for well" could be a more promising indicator of quality than patient satisfaction (Mitchell et al., 1997).

Nursing frameworks or nurses' experiences also have provided the conceptual basis for measuring the quality of nursing care, with scale construction based on clinicians' rather than patients' perspectives (Barrett, 1988; Ketefian, Redman, Nash, & Bogue, 1997; La Monica, Oberst, Madea, & Wolf, 1986; Mahrenholz, 1999; Norman, Redfern, Tomalin, & Oliver, 1994). Because research has indicated that patients and nurses have different views of what constitutes excellent nursing care (Fosbinder, 1994; Lynn & Kelley, 1997; Lynn & Moore, 1997), scales based on nurses' perspectives may not be adequate for assessing patients' perceptions of care (Mahrenholz).

Some of the early scales designed to measure patients' perceptions of the quality of care included patient input (Larson, 1984; Risser, 1975). More recently, Lynn and Moore (1997) developed the Patients' Perceptions of Quality Scale–Acute Care Version (PPQS–ACV) from patient interview data. The psychometric properties of the PPQS–ACV were appraised with a sample of 401 patients. Construct validity was assessed using factor analysis. The 54-item PPQS–ACV was found to represent four dimensions of the quality of nursing care: professional demeanor, treats me like an individual, mindfulness, and responsiveness.

In addition, Dozier et al. (2001) developed a scale to measure the quality of nursing care based on Swanson's (1991) middle-range theory of caring. The theory was derived from qualitative analyses of patient interviews and included five nurse caring behaviors: knowing, being with, doing for, enabling, and maintaining belief. Dozier et al. originally developed the 125-item Patient Perception of Hospital Experience with Nursing Scale (PPHEN) to operationalize Swanson's five caring behaviors. This large item pool was sequentially reduced to 80 and then 15 items through "field testing" that included reliability and validity assessment. Construct validity of the final 15-item scale was tested using factor analysis. The investigators identified a single dominant factor, which they labeled feeling cared for.

Moreover, using written comments about the quality of care from patients in an Athens, Greece, hospital, Merkouris, Yfantopoulos, Lanara, and Lemonidou (1999) developed items for the Patient Satisfaction with Nursing Service Instrument (PSNSI). A 29-item version was assessed for construct validity using exploratory factor analysis with a sample of 103 patients. Six dimensions resulted: interpersonal relations and available time, technical competence and response, information, food, cleanliness, and maintenance of a restful atmosphere.

The PPQS–ACV, PPHEN, and PSNSI were based on patients' perceptions of the quality of general medical-surgical nursing care. In contrast, the present study focused on measurement of patients' perceptions of the quality of cancer nursing care. The Oncology Patients' Perceptions of the Quality of Nursing Care Scale (OPPQNCS) was designed to operationalize the concepts of a middle-range theory of high-quality cancer nursing care (Radwin, 2000; Radwin & Alster, 1999). The theory, which emerged from interviews with patients with cancer about their perceptions of nursing care, is comprised of two multidimensional concepts (see Figure 1). One concept is the attributes of high-quality cancer nursing care, which has eight interrelated dimensions: professional knowledge, continuity, attentiveness, coordination, partnership, individualization, rapport, and caring. The other concept is outcomes, which has two dimensions: increased fortitude and a sense of well-being, with its constituents of optimism, trust, and authenticity. These positive outcomes of high-quality nursing care were not attributes of care and, therefore, were not included in the OPPQNCS.

Methods

Scale Development

Conceptual definitions of the eight dimensions of the attributes of high-quality nursing care, theoretical descriptions, and verbatim data from the qualitative study (Radwin, 2000) were used to construct the OPPQNCS subscales and items. One hundred twelve items describing specific nursing activities that operationalized the eight dimensions of attributes of high-quality nursing care were written as closed-ended, concrete, declarative statements (Summers, 1992; Waltz, Strickland, & Lenz, 1991). An expert methods consultant evaluated the items for clarity, relevance, and match with the qualitative data; 85 items remained after the critique.

Content validity for the 85 items was assessed using a nine-member expert rater panel (Lynn, 1986) of four patients with cancer who had participated in the qualitative study, one additional patient with cancer, one doctorally prepared nurse who was the former director for quality assurance at a major academic medical center, one doctorally prepared nurse researcher experienced in the study of nursing care, one executive director

Attributes of High-Quality Cancer Nursing Care

Professional knowledge: Patient thought that the nurse used knowledge gained from caring for similar patients and that the nurse was technically competent.

Continuity: The same nurse cared for the patient as frequently as possible.

Attentiveness: Patient thought that the nurse listened to him or her and addressed patient needs promptly.

Coordination: Patient thought that the nurse communicated with other providers, identified the responsible provider, and assured smooth transitions.

Partnership: Patient thought that he or she was significantly included in decision making and that his or her skills, knowledge, and appraisals were respected.

Individualization: Patient thought that the nurse understood the patient's feelings, perceptions, preferred coping strategies, and the impact of the illness. The nurse tailored care to these specifics.

Rapport: Patient and nurse formed a human connection and knew one another.

Caring: Patient thought that the nurse expressed concern, was nurturing, and remembered things about the patient.

Outcomes of High-Quality Cancer Nursing Care

Increased fortitude: The patient's strength and willingness to bear the effects of cancer treatments as well as the symptoms of the disease itself

Sense of well-being: A positive emotional state that encompassed trust, optimism, and authenticity

- **Optimism:** The patient's beliefs that he or she had made appropriate choices regarding treatment and the patient's feelings of hopefulness about treatment outcomes
- **Trust:** The confidence that care would be appropriate, reliable, and as successful as possible
- **Authenticity:** Genuine self-representation

Figure 1. Definitions of the Eight Attributes and Two Outcomes of High-Quality Cancer Nursing Care

Note. Based on information from Radwin, 2000.

of a patient advocacy group, and one survey scientist experienced in studies of the improvement of patient-provider relationships.

Each expert rater was given the conceptual definition for high-quality nursing care, a list of the eight dimensions of the attributes with their conceptual definitions, and the 85 items. Each rater considered the individual items in each subscale and ranked the congruence of each item to its conceptual definition on a four-point Likert scale (1 = not related, 2 = minimally related, 3 = moderately related, 4 = highly related). The expert raters also were asked for suggestions for revisions in items. A content validity index (CVI) for each item was calculated by determining the proportion of raters who ranked the item as 3 or 4 on the Likert scale. Items were retained based on the criterion CVI of 0.78 (Lynn, 1986). Fifty-nine of the items met this criterion, suggesting that the subscales, as well as the items, had satisfactory content validity. Items from each of the originally proposed eight subscales were retained as follows: professional knowledge (8 items), continuity (1 item), attentiveness (10 items), coordination (9 items), partnership (8 items), individualization (9 items), rapport (3 items), and caring (11 items).

The items were designed to be rated by each patient on a six-point Likert scale reflecting the frequency of the nursing activity (from 1 = never to 6 = always). "Didn't matter" and "don't know" responses were two additional rating points. The "didn't matter" response signified that a specific nursing activity was not relevant to the patient's perception of the quality of nursing care. The "don't know" response signified that a patient did not know whether a specific nursing activity had occurred.

Two open-ended questions about nursing care (i.e., "In general, how would you describe the quality of nursing care you received as a cancer patient?" and "In general, how do you feel about nurses?"), one question about the site of care (i.e., clinic or hospital), and 11 demographic questions were appended to the OPPQNCS.

Sample

Five hundred fifty-two participants completed the OPPQNCS over a five-month period, closely approximating the desired ratio of 10 subjects per questionnaire item (Froman, 2001). Study participants were patients with cancer receiving active treatment recruited from the hematology-oncology clinic of a designated National Cancer Institute comprehensive cancer center in a New England tertiary medical center. All patients who met the following criteria were eligible to participate: 18 years or older, registered with the receptionist on the days of data collection, and indicated they had received cancer nursing care in the clinic or the hospital. Extremely ill or confused patients, as identified by a nurse manager's designee, were excluded from the study. Potential participants were informed that the researchers were conducting a study about what constitutes good nursing care and were asked if they would complete a questionnaire. Potential participants who declined often stated that they were too preoccupied or too ill to participate.

Procedures

A medical center's and university's institutional review boards approved the psychometric testing study protocol. A cover letter provided an explanation of the study; completion of the OPPQNCS represented informed consent.

Participants completed the questionnaires while waiting for clinic appointments. Completed OPPQNCSs were returned to a designated box at the reception area or to a researcher. A researcher helped the few patients who requested assistance with reading and responding to the OPPQNCS.

Results

Construct validity of the OPPQNCS was examined with a principal component method of exploratory factor analysis. Internal consistency reliability was assessed using coefficient alpha.

Participants

After determination of the items and participants to be retained, 116 participants were dropped from the analysis, leaving a sample of 436 participants. About half of the retained participants (52%) responded to the items as they related to nursing care in the clinic; the remaining participants addressed nursing care received in the hospital. Two-thirds of the retained participants were female. The mean age was 54.8 years (SD = 13). Of the 376 participants who answered the question about race, 93% were white; 4%, were African American/black; 1% were Asian; 1% indicated more than one race, and 2% indicated "other." Of the 363 participants who answered the question about Hispanic/Latino origin, 4% indicated yes. Most of the retained participants (81%) had more than a high school education. Of the 318 participants who answered the question about household income, 58% indicated greater than or equal to $59,001. Two hundred seventy-one participants indicated they had been hospitalized; the mean number of hospitalizations was 2.6 (SD = 2.3). The mean length of the most recent hospitalization was 6.8 days (SD = 7).

Comparisons of the 436 retained participants to the 116 eliminated participants using t tests or Wilcoxon Rank Sum tests for the continuous variables, and chi-squares or Fisher's exact tests for the categorical variables, revealed no statistically significant differences in gender, race, education, or income. All of the Hispanic/Latino respondents were retained ($n = 17$, $p = 0.05$). In contrast to retained participants, the eliminated participants were older ($\overline{X} = 58.4$, SD = 14.5, $p = 0.01$), had fewer hospitalizations ($\overline{X} = 2.1$, SD = 1.6, $p = 0.03$), and had shorter hospitalizations ($\overline{X} = 4$ days, SD = 3.7, $p < 0.0001$). These findings suggested that retained participants could be considered more informed consumers of nursing care because they were hospitalized more frequently and for longer periods of time.

Of the 40 types of cancer identified by 381 of the retained participants, breast was the most frequent (40%), followed by melanoma (9%), lung (6%), renal cell (4%), squamous cell (4%), and prostate (3%). Less than 3% of the participants identified each of various other types of cancer (e.g., ovarian, colon).

Retained Items and Participants

Each of the 552 completed questionnaires was examined for frequency of responses, including percentages of missing data and the "didn't matter" and "don't know" responses. An item was dropped from the analysis if more than 10% of the 552 study participants had a missing value for that item. An item also was dropped if more than 10% of responses were "didn't matter" or if more than 10% were "don't know." These decisions were based on the rationale that the OPPQNCS should

contain only those nurse activities that matter to patients and are known to patients. Fourteen items were eliminated, leaving 45 items for analysis.

Each study participant's responses then were examined for missing data, and each participant who had 10% or more missing data for the retained items was eliminated. The researchers inferred that some of the participants who had more than 10% missing data had been called for their clinic appointments before they had completed the OPPQNCS. Also, some participants filled out the front and back pages of the OPPQNCS and did not complete the two middle pages, leaving more than 10% of the items blank. One hundred sixteen participants were eliminated, leaving a sample of 436 retained participants.

Data points for the 45 retained items with a missing value or a "didn't matter" or "don't know" response were replaced by computing the mean for the remaining responses that each individual respondent provided. The sample mean for an item was not imputed because, in the researchers' judgments, the imputation of the sample mean would have overly restricted the variability for that item. Moreover, by performing imputation at the individual level, the imputed data were consistent with the individual's completed responses on other items (Bernaards & Sijtsma, 2000).

Descriptive Statistics

The means, standard deviations, and skewness for the 45 items are displayed in Table 1. Inspection of the item means, standard deviations, and skewness statistics revealed limited variability, raising concerns about violation of the distributional assumptions underlying coefficient alpha and factor analysis. To check the possible violation of these assumptions, Pearson and Spearman rank correlation analyses were calculated on an item-by-item basis. The sizes of the correlation coefficients using these two methods were sufficiently similar to justify using parametric statistics. The judgment was made that restricted variability did not pose a threat to the validity of the analyses.

Construct Validity

The 436 participants provided a sufficient sample for conducting a factor analysis of the 45-item OPPQNCS (Froman, 2001). Construct validity of the 45-item OPPQNCS was examined with a principal component method of exploratory factor analysis. Inasmuch as the eight dimensions of the attributes of high-quality nursing care were thought to be interrelated, a promax (oblique) rotation was conducted using SPSS® for Windows Version 10.0 (SPSS Inc., Chicago, IL).

The principal components analysis (PCA) revealed that four factors accounted for 80.5% of the variance. A forced four-factor solution indicated that 41 of the 45 items should be retained. Two of the 45 items were deleted on the first rotation because they did not meet the factor loading criterion of greater than or equal to 0.4; two other items were eliminated because they loaded ambiguously on more than one factor (Dixon, 2001). The 41 items were analyzed again using PCA and promax rotation, and one additional item was deleted because the factor loading was less than 0.4. The remaining 40 items met all criteria when a third promax rotation was performed (see Table 2).

Each of the four PCA-derived components was comprised of a minimum of three items. Correlations among components

Table 1. Means, Standard Deviations, and Skewness

Item	$\bar{X}$	SD	Skewness
The nurses			
Gave me the support I needed.	5.57	0.88	–2.47
Comforted me when I needed it.	5.50	0.99	–2.31
Did what they could to make me comfortable.	5.62	0.85	–2.72
Showed they cared about my family and friends.	5.44	1.06	–2.14
Made me feel like I mattered.	5.54	0.94	–2.46
Remembered things about me.	5.32	1.07	–1.80
Respected my dignity.	5.65	0.81	–2.75
Tried to help when I was having a difficult time.	5.59	0.87	–2.41
Were genuinely concerned about me.	5.55	0.91	–2.23
Were gentle with me.	5.64	0.79	–2.57
Were kind to me.[a]	5.69	0.74	–2.69
Addressed my needs promptly.	5.36	1.00	–1.82
Came when I needed them.	5.43	0.92	–1.86
Checked on me often enough.	5.38	1.02	–1.91
Made sure I had what I needed.	5.49	0.95	–2.08
Paid attention to what I said.	5.58	0.88	–2.61
Reacted quickly when something important happened.	5.61	0.79	–2.57
Spent time with me when I needed them.	5.33	1.07	–1.82
Took my concerns seriously.	5.56	0.90	–2.39
Took time to answer my questions.	5.58	0.89	–2.48
Took time to ask what I needed.	5.42	1.04	–2.08
Arranged for the same nurses to care for me regularly.	5.23	1.18	–1.79
Knew what was going on with me.	5.46	0.92	–2.02
Told me which nurse was taking over when they were not there.	5.21	1.30	–1.76
Worked together to care for me.	5.44	1.01	–2.08
Told me which nurse was primarily responsible for coordinating my care.	5.44	1.16	–2.36
Knew how I was coping.	5.15	1.09	–1.39
Knew how to help me when things were bothering me.	5.05	1.18	–1.17
Knew what I had been through.	5.19	1.24	–1.57
Knew how I was feeling.	5.05	1.08	–1.25
Personalized my care to my particular needs.	5.20	1.15	–1.64
Knew how to help me in ways that I liked.	5.14	1.15	–1.37
Discussed care options with me.	5.12	1.29	–1.47
Encouraged me to actively participate in my care.	5.22	1.17	–1.58
Helped me get the information I wanted.	5.27	1.12	–1.45
Respected what I knew about my condition.	5.45	0.99	–2.13
Correctly anticipated problems I might have because of my condition.	5.26	1.09	–1.71
Gave me accurate explanations about my care.	5.45	0.96	–1.97
Knew how to care for someone with my condition.	5.58	0.87	–2.51
Knew how to help me.	5.50	0.89	–2.10
Knew what they were doing.	5.66	0.76	–2.68
Were skillful.	5.65	0.76	–2.60
Made it easy to establish the relationship I wanted with them.	5.43	1.07	–2.21
Talked with me in a comfortable way.	5.57	0.94	–2.54
Established rapport with me.	5.47	1.04	–2.22

N = 436

[a] Responses to this item ranged from 2–6. Responses to all other items ranged from 1–6.

ranged from 0.612–0.791. The first component was labeled **responsiveness,** defined as the degree to which the nurse demonstrates that she or he is able to meet patient needs in a caring and attentive manner. The second component was labeled **individualization,** defined as the degree to which the nurse personalizes care according to the patient's feelings, preferences, and desired level of involvement in care. The third component was labeled **coordination,** defined as the degree to which the nurse promotes communication among other nurses and the patient. The fourth component was labeled **proficiency,** defined as the degree to which the nurse provides knowledgeable, skillful nursing care.

Reliability Estimation

Internal consistency reliability of the OPPQNCS was assessed using coefficient alpha. Coefficient alpha of the total 40-item scale was 0.99. The coefficient alpha for the responsiveness subscale was 0.99 (22 items); for the individualization

Table 2. Factor Loadings for the Long Form of the Scale

	Factor Loadings			
Item	**1**	**2**	**3**	**4**
Responsiveness				
The nurses				
Gave me the support I needed.	0.811			
Comforted me when I needed it.	0.836			
Did what they could to make me comfortable.	0.770			
Showed they cared about my family and friends.	0.851			
Made me feel like I mattered.	0.917			
Remembered things about me.	0.597			
Respected my dignity.	0.903			
Tried to help when I was having a difficult time.	0.835			
Were genuinely concerned about me.	0.927			
Were gentle with me.	0.884			
Were kind to me.	0.953			
Addressed my needs promptly.	0.816			
Came when I needed them.	0.741			
Checked on me often enough.	0.528			
Made sure I had what I needed.	0.624			
Paid attention to what I said.	0.745			
Reacted quickly when something important happened.	0.675			
Spent time with me when I needed them.	0.581			
Took my concerns seriously.	0.791			
Took time to answer my questions.	0.716			
Took time to ask what I needed.	0.675			
Made it easy to establish the relationship I wanted with them.	0.506			
Individualization				
The nurses				
Knew how I was coping.		0.713		
Knew how to help me when things were bothering me.		0.856		
Knew what I had been through.		0.525		
Knew how I was feeling.		0.750		
Personalized my care to my particular needs.		0.621		
Knew how to help me in ways that I liked.		0.615		
Discussed care options with me.		0.920		
Encouraged me to actively participate in my care.		0.912		
Helped me get the information I wanted.		0.684		
Correctly anticipated problems I might have because of my condition.		0.624		
Coordination				
The nurses				
Arranged for the same nurses to care for me regularly.			0.738	
Told me which nurse was taking over when they were not there.			0.952	
Told me which nurse was primarily responsible for coordinating my care.			0.806	
Proficiency				
The nurses				
Gave me accurate explanations about my care.				0.533
Knew how to care for someone with my condition.				0.716
Knew how to help me.				0.421
Knew what they were doing.				0.532
Were skillful.				0.578

subscale, 0.97 (10 items); for the coordination subscale, 0.87 (3 items); and for the proficiency subscale, 0.95 (5 items). "Alpha if item removed" statistics indicated that removal of any item would result in a lower alpha for the relevant subscale.

Development of a Short Form

Review of the items for the responsiveness and individualization subscales and the high internal consistency reliability coefficients for those subscales indicated that a reduction in the number of items might yield shorter subscales with the same conceptual and psychometric properties. The researchers thought that a short form of the OPPQNCS would offer an alternative for researchers concerned about respondent burden, especially when patients are asked to complete a battery of scales. A stepwise regression analysis was performed using the 22 items in the responsiveness subscale as independent variables and the total 22-item subscale summated score as the dependent variable (Kessler & Mroczek, 1995). Using the change in R^2 statistic, judgments were made regarding the removal of responsiveness subscale items. A similar method was used to reduce the items in the individualization subscale. Items in each of the two subscales were removed as long as the underlying four-component structure as found in the 40-item scale was maintained. An 18-item short form resulted. The factor analysis for the short form is displayed in Table 3. Correlations among subscales ranged from 0.689–0.805.

Coefficient alpha of the total 18-item short form was 0.97, 0.95 for the responsiveness subscale (5 items), 0.93 for the individualization subscale (5 items), 0.87 for the coordination subscale (3 items), and 0.95 for the proficiency subscale (5 items). "Alpha if item removed" statistics indicated that removal of any item would result in a lower alpha for the relevant subscale.

Discussion

The instrument developed to validate the original middle-range theory that delineated eight interrelated dimensions of the concept, attributes of high-quality cancer nursing care, did not do so. Rather, the quantitative analysis provided a more parsimonious conceptualization of the attributes of high-quality care in yielding just four dimensions. Both forms of the OPPQNCS (40-item and 18-item) reflected these four dimensions. Noteworthy is that the original eight dimensions from the middle-range theory were operationalized in 59 items in eight subscales and that at least one item from each subscale was retained in the 40-item OPPQNCS. More specifically, items from the original caring, attentiveness, and rapport subscales were retained in the responsiveness subscale; items from the original individualization and partnership subscales were retained in the individualization subscale; items from the original coordination and continuity subscales were included in the coordination subscale; and items from the professional knowledge subscale were retained in the proficiency subscale. The same structure was evident in the 18-item short form, with the exception that the item measuring rapport was eliminated.

The OPPQNCS is distinctive in that no other measure of patients' perceptions of the quality of nursing care incorporates precisely the same the subscales found in it. Confidence in these findings is enhanced because psychometric testing of other measures yielded subscales that were similar to those of the OPPQNCS. For example, the OPPQNCS responsiveness and proficiency subscales are conceptually related to the caring and technical skills subscales in the Patient Satisfaction with Nursing Care Questionnaire (PSNCQ) (Jacox, Bausell, & Mahrenholz, 1997) and two subscales in the PSNSI (Merkouris et al., 1999): interpersonal relations/available time and competence/response. The OPPQNCS individualization subscale is conceptually related to the treats me like an individual and mindfulness dimensions of the PPQS–ACV (Lynn & Moore, 1997). The OPPQNCS coordination subscale is conceptually related to the monitors and follows through subscale of the CARE/SAT (Larson & Ferketich, 1993).

Limitations

Generalizability of the findings of this study is limited because the OPPQNCS was developed with participants who were overwhelmingly white, middle-aged, well educated, and financially well-to-do. Moreover, the majority of participants were female, and more than a third identified breast cancer as their diagnosis. Also, patients who were identified by nurses as extremely ill or who self-identified as too ill to participate were excluded. The authors recommend, therefore, that the OPPQNCS be psychometrically tested with samples that are more varied in race, age, educational level, gender, income, and type of cancer, as well as the very ill.

The distinctive combination of the four subscales comprising the OPPQNCS may reflect the characteristics of the quality of care that are particularly important to patients with cancer. However, whether the OPPQNCS is particularly sensitive to the perceptions of patients with cancer in contrast to other patients remains to be determined. The psychometric properties of the OPPQNCS were tested in a large sample of patients with cancer, and future research is recommended to determine the reliability and validity of the scale in other populations. Thus, the OPPQNCS should not yet be used with patients who do not have cancer.

OPPQNCS item scores in this sample were skewed toward positive perceptions of care. Considerable evidence has suggested that patients' perceptions of nursing care are highly positive when measured on Likert-type scales (Ketefian et al., 1997; La Monica et al., 1986; Larson & Ferketich, 1993; Lin, 1996; Munro, Jacobsen, & Brooten, 1994), raising concerns about ceiling effects. However, efforts to obtain normally distributed data have had limited success. For example, Ketefian et al. administered their patient satisfaction questionnaires after patient discharge with the expectation that once discharged, respondents would be more comfortable reflecting negatively on nursing care. Nonetheless, respondent data were skewed to the left. Similarly, Jacox et al. (1997) found that data were markedly skewed to the left in a pilot study of the PSNCQ. In subsequent studies, the investigators instructed respondents to not mark all fives or ones when completing the PSNCQ; "trends" suggested this instruction had limited success. Various investigators have substituted a seven-point ranking scale for an originally devised five-point scale to enhance data variability, with very little to no success (Jacox et al.; Lin; Munro et al.).

Implications for Nursing

IOM asserts that substantial improvement in the quality of American health care is sorely needed. The Committee on Quality of Health Care in America, IOM, (2001) concluded that the patient-centeredness of care is one of six key dimensions of

Table 3. Factor Loadings for the Short Form of the Scale

Item	Factor Loadings 1	2	3	4
Responsiveness				
The nurses				
Comforted me when I needed it.	0.873			
Were genuinely concerned about me.	0.872			
Respected my dignity.	0.853			
Took time to answer my questions.	0.689			
Made sure I had what I needed.	0.559			
Individualization				
The nurses				
Encouraged me to actively participate in my care.		0.985		
Discussed care options with me.		0.954		
Helped me get the information I wanted.		0.705		
Knew how to help me when things were bothering me.		0.620		
Knew what I had been through.		0.425		
Coordination				
The nurses				
Told me which nurse was taking over when they were not there.			0.981	
Arranged for the same nurses to care for me regularly.			0.785	
Told me which nurse was primarily responsible for coordinating my care.			0.779	
Proficiency				
The nurses				
Knew how to care for someone with my condition.				0.974
Were skillful.				0.798
Knew what they were doing.				0.755
Knew how to help me.				0.648
Gave me accurate explanations about my care.				0.618

the healthcare system requiring significant change for the better. According to the committee, aspects of patient-centered care include "(1) respect for patients' values, preferences, and expressed needs; (2) coordination and integration of care; (3) information, communication and education; (4) physical comfort; (5) emotional support—relieving fear and anxiety; and (6) involvement of family and friends" (Committee on Quality of Health Care in America, IOM, p. 49). Patient participation in care and care coordination are similarly emphasized in the Oncology Nursing Society (ONS) position statement on "Quality Cancer Care" (ONS, 2000).

The OPPQNCS holds promise for oncology nurses who wish to monitor and improve the IOM- and ONS-identified aspects of patient-centered, high-quality nursing care. The OPPQNCS individualization subscale measures the degree to which care reflects patients' needs and values. The individualization subscale also measures patients' desired level of involvement in care (e.g., information, communication, education). The OPPQNCS coordination subscale measures coordination of care among nurses. The OPPQNCS responsiveness subscale addresses the degree of caring and attentiveness the nurse provides while meeting patients' physical or emotional needs.

Equally important, IOM maintains that the most relevant way to measure the patient-centeredness of care is to ask patients about specific aspects of their care experiences (Hurtado, Swift, & Corrigan, 2001). The OPPQNCS meets this requirement. The scale is based on a middle range theory of patients' perspectives of the quality of cancer care, and patients' responses are used to measure care quality using the OPPQNCS.

Additionally, the OPPQNCS proficiency subscale measures patients' perceptions of nurses' professional knowledge. Professional knowledge is a component of IOM's definition of quality in health care (Committee on Quality of Health Care in America, IOM, 2001). This definition is endorsed by ONS (2000).

In conclusion, oncology nurses are particularly interested in the effect of changes in the healthcare system on the quality of cancer nursing care (ONS, 2000). The OPPQNCS may prove useful when studying these effects. In particular, the OPPQNCS allows measurement of patients' perceptions of nursing care and provides a means to examine relations among patients' perceptions of care, healthcare system characteristics (e.g., nurse staffing), patient characteristics (e.g., race, gender), and nurse-sensitive patient outcomes (e.g., health-related quality of life, psychological well-being). The short form minimizes respondent burden in instances when patients complete multiple scales and may best serve these research purposes.

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- ➤ International Society for Quality of Life Research
  www.isoqol.org
- ➤ Instruments for Quality of Life Assessment in Medicine
  www.qlmed.org
- ➤ Centers for Disease Control and Prevention:
  Health-Related Quality of Life
  www.cdc.gov/nccdphp/hrqol/

Links can be found using ONS Online at www.ons.org.