Research Paper ■

Decision Support for Patient Preference-based Care Planning:
Effects on Nursing Care and Patient Outcomes

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A b s t r a c t   **Objective:** While preference elicitation techniques have been effective in helping patients make decisions consistent with their preferences, little is known about whether information about patient preferences affects clinicians in clinical decision making and improves patient outcomes. The purpose of this study was to evaluate a decision support system for eliciting elderly patients' preferences for self-care capability and providing this information to nurses in clinical practice—specifically, its effect on nurses' care priorities and the patient outcomes of preference achievement and patient satisfaction.

Design: Three-group quasi-experimental design with one experimental and two control groups ($N = 151$). In the experimental group computer-processed information about individual patient's preferences was placed in patients' charts to be used for care planning.

Results: Information about patient preferences changed nurses' care priorities to be more consistent with patient preferences and improved patients' preference achievement and physical functioning. Further, higher consistency between patient preferences and nurses' care priorities was associated with higher preference achievement, and higher preference achievement with greater patient satisfaction.

Conclusion: This study demonstrated that decision support for eliciting patient preferences and including them in nursing care planning is an effective and feasible strategy for improving nursing care and patient outcomes.

■ **JAMIA.** 1999;6:304–312.

Traditionally, decision making about patient care has been based on health care providers' assumptions about what is in a patient's best interest without verifying these assumptions with their patients. How-

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ever, research has demonstrated that health care providers cannot automatically infer what patients value, nor can they assume what care decisions are in a patient's best interest.[1,2] Studies of preferences for treatment of patients and health care professionals found that patient preferences are generally hard to predict.[3–5] Also, it has been demonstrated that clinical outcomes perceived as excellent by health care professionals are not necessarily experienced in the same way by patients.[6,7]

Recent literature has focused on the importance of including patient preferences in decisions regarding their care.[1,8,9] Also, there is increased emphasis on shared decision making between health care providers and patients, and on their working collaboratively to select the best care decisions.[1,10] This research emphasizes that judgments about the right care decisions

from the perspective of patients cannot be made without including patients' own perspectives about their perceived health care needs and preferences for health outcomes. Thus, a critical component for providing patient-centered care is to systematically elicit patients' perspectives of their health problems and preferences for outcomes, and include patient preferences in patient care to increase congruence between preferences and outcomes. This paper presents a study that tested the effect of eliciting elderly patients' preferences for self-care capability and providing this information to nurses in clinical practice on nurses' care priorities and the patient outcomes of preference achievement and patient satisfaction.

Background

Although nursing theoretic frameworks have always emphasized the importance of including patients' perspectives, values, and preferences in care planning, care planning approaches to date provide little support to assist nurses in eliciting patient preferences and integrating them into care decisions. The usefulness of preference elicitation techniques based on utility theory or psychometric approaches has been demonstrated in medical care for eliciting patient preferences for treatment options or for imagined or experienced health states.[11–15] However, to date the application of preference elicitation techniques in clinical practice has been limited. Also, there has been little research investigating how information about patient preferences affects clinical decision making and patient outcomes.

Computer-based applications for eliciting patient preferences have been developed primarily to assist patients in making decisions consistent with their preferences when facing complex treatment choices. Examples include the Shared Decision-making Program, with modules for benign prostatic hyperplasia, breast cancer, hypertension, ischemic heart disease, and low back pain that guide patients toward a decision congruent with their individual preferences for treatment outcomes.[16] CHESS, the Comprehensive Health Promotion Enhancement Support System, is designed for patients with AIDS/HIV infection, patients with breast cancer, acquaintances of rape victims, adult children of alcoholics, persons troubled by academic failure, and persons in need of stress management. Utilizing a Multi-attribute utility theory approach, CHESS assists patients in understanding available options, selecting decision criteria and their relative importance, and choosing the option they are leaning toward based on their preferences.[17] Among more recent developments are computer-based surveys and instructional programs that use multimedia combined with techniques such as standard gamble methods, visual analogue scales, pair-wise comparisons, or time tradeoff, to guide the patient through the process of clarifying their preferences in an interactive fashion.[18] The feasibility and user-acceptability of these systems has been demonstrated, as has their usefulness in improving patients' abilities to make informed decisions consistent with their preferences. Studies evaluating computerized systems for preference elicitation reported that study participants scored higher on measures of cognitive functioning and social support,[17] had higher satisfaction with decision making and better scores on general health perceptions and physical functioning,[16] and had a better understanding of their health states.[18]

While preference elicitation techniques have been found useful for assisting patients in decision making, several authors have argued that information about patient preferences also can support clinicians in making decisions consistent with patient preferences and would lead to better patient outcomes.[6,8,15] However, there has been very little research addressing, first, whether information about patient preferences does in fact prompt clinicians to make care decisions consistent with patient preferences and, second, whether decisions based on patient preferences improve patient outcomes. No previous nursing studies have investigated these relationships.

One study addressing these questions was the SUPPORT study, a large, multisite clinical trial in which 4,300 terminally ill patients were randomly assigned to an intervention that involved a nurse clinician who helped elicit patient preferences, addressed pain control, and facilitated discussions among patients, families, and the health care team about advance care planning and treatment alternatives. The information about patients' preferences was shared with the patients' physicians based on the hypothesis that increased communication and understanding of prognoses and preferences would result in earlier treatment decisions, thus leading to reductions in the length of time spent in undesirable states before death.[19] However, the SUPPORT intervention had no significant effect on the accuracy of physicians' understanding of their patients' choices or on patient outcomes assessed as numbers of days spent in the intensive care unit or in a coma before death, reported pain, and utilization of hospital resources.[19] Clearly, further studies are needed, investigating the effect of providing clinicians with information about patient preferences on clinical care decisions and patient outcomes.

Purpose

The purpose of the current study was to evaluate the effect of eliciting elderly patients' preferences for self-care capability and of providing nurses in clinical practice with this information on congruence between patient preferences and nurses' care priorities reflected in the nursing documentation; patients' preference achievement as outcomes of care; and patient satisfaction. Using a three-group quasi-experimental design with one experimental and two control groups, the following hypotheses were tested: nurses' care priorities addressed in the nursing documentation are more congruent with patient preferences for self-care capability when nurses are provided with information about patient preferences than when nurses are not provided with this information; patients' preference achievement at discharge is greater when nurses are provided with information about patient preferences than when nurses are not provided with this information; and patients are more satisfied with their care when nurses are provided with information about patient preferences than when nurses are not provided with this information. These hypotheses were statistically controlled for patients' physical functioning and comorbidity. In order to learn about the mechanisms in the relationships among information about patient preferences, care planning, and patient outcomes, this study also investigated the relationships between nurses' care priorities and preference achievement and between preference achievement and patient satisfaction.

This study was envisioned as a first step in the development of a computer-based decision support system designed to assist nurses in eliciting and integrating patient preferences for self-care capability into care planning. However, an essential but often overlooked step in building a decision support system before implementing it in clinical practice is that of refining and testing the decision strategy. Therefore, a goal of this study was to evaluate, through experience, the feasibility of the proposed elicitation strategy and its effectiveness in providing nurses with information about patient preferences for self-care capability, in order to set care priorities consistent with patient preferences and improve patient outcomes.

Methods

Sample

The study sample consisted of 151 patients (49–51 per group) admitted for a minimum of three days to an acute care unit for the elderly at a university hospital. Of these, 54.3 percent were women and 44.7 percent were men; their mean age was 75.5 years (range 62–94 years, SD 7.7 years); 72.2 percent were white and 22.0 percent African American; the mean duration of formal education was 12.8 years (range 0–25 years, SD 3.8 years); and two thirds of the patients (67.0 percent) were admitted for medical reasons and one third for surgical reasons. The mean length of stay was 5.9 days (SD 4.6 days).

Measurements

Preference Elicitation

The model for eliciting patient preferences for self-care capability uses a psychometric approach. Its content is based on Orem's self-care theory[20] and consists of 13 dimensions, which according to Orem are necessary for a person to perform self-care to maintain life, health, and well-being. These 13 dimensions representing the construct of self-care capability include those related to maintenance of bodily functions, such as mobility, nutrition, elimination, rest and activity, as well as those related to patients' health deviation, such as management of medications, treatments, and adjustment to lifestyle changes. During the elicitation process the patient may also describe in more detail the manifestation of a self-care problem under each dimension that is important to her or him to improve. The preference elicitation model contains four additional free fields to provide patients with the opportunity to include individually selected dimensions without being biased by the predefined dimensions in the preference model.

At the beginning of the preference elicitation interview, patients in this study were asked to state two or three self-selected dimensions that were particularly important to them to improve, which they consequently wished to be a focus for care. Next, patients were asked to examine carefully each of the self-care dimensions in the preference model and to assign importance weights on rating scales adjacent to each dimension. These scales ranged from not important (0) to very important (10), denoting the patients' ratings of the importance of improving their capability in each dimension. Dimensions were weighted equally and importance weights for all dimensions were added to a final score, providing an index of patient preferences for self-care capability that was used in the computation of patients' perceived preference achievement at discharge.

Preference Achievement

Patients were asked at discharge to review self-care dimensions that they had identified during the admission interview by assigning them importance weights greater than zero, and to rate the degree of

their perceived achievement in each of these dimensions. Again, rating scales ranging from 0 (no improvement) to 10 (complete achievement) adjacent to each self-care dimension were used. Achievement values were then multiplied by the importance weights assigned by patients during the admission interview. All products were added to a total score and, finally, the ratio between indexes of a patient's preferences for self-care capability obtained at admission and their achievement at discharge was computed. The higher the ratio, the higher the degree of preference achievement.

Nurses' Care Priorities

Nurses' care priorities for the patients' first three admission days were abstracted from patients' charts according to a specially developed abstraction scheme described in more detail elsewhere.[21] Based on the amount, type, frequency, and location of documentation of nursing care aspects in patients' charts, a priority rating from 1 to 5 (with 1 as the highest rating) was assigned to each nursing care aspect using the heuristics developed in a separate study.[21] The validity of ratings of nurses' care priorities from patients' charts was established in a sample of ten patients by comparing the investigator's priority ratings to the priority ratings of two or three nurses who had cared for the same patient, yielding a total of 21 comparisons of ratings between investigator and nurses. The mean overall consistency score between the investigator's and nurses' care priorities was 0.80. This was higher than the mean consistency score of 0.76 for priority ratings among nurses only, which was used as the gold standard for acceptable validity of chart abstractions as measure of nurses' care priorities. Satisfactory intrarater reliability of chart abstractions was demonstrated by 90 percent agreement on the numbers and types of self-care dimensions and priority ratings abstracted from patients' charts. Intrarater reliability was measured in randomly selected charts and blinded to patients' group assignment for 10 percent of the sample.

Patient Satisfaction

Patient satisfaction with nursing care was measured with the LaMonica–Oberst Patient Satisfaction Scale.[22] The 41-item instrument is an indirect measure of patient satisfaction, and the level of satisfaction is inferred from respondents judgments about the extent to which specific nurse behaviors did or did not occur. Items are rated on a seven-point Likert scale ranging from strongly disagree to strongly agree. Patient satisfaction is conceptualized as the degree of congruence between patients' expectations of nursing care and their perceptions of the care actually received.[22]

Chronbach's alpha as a measure for reliability in this study was 0.95.

Control Variables

Physical functioning was measured with the Sickness Impact Profile[23] (SIP) and comorbidity with the Charlson Comorbidity Index.[24]

Procedures

Eligible patients were enrolled consecutively in this study. Consenting patients were interviewed twice at their bedsides, the first time within 24 hours of admission and the second at discharge. At admission patients in all three groups were asked a few demographic questions and completed the investigator-administered SIP. At discharge, all patients completed the patient satisfaction questionnaire (LOPSS) and again the SIP. In experimental group A, patient preferences for self-care capability were elicited by the investigator at admission as described above. This information was entered immediately after this interview into a portable computer, processed, and printed out on a preference form in the order of the importance the patient had assigned to selected self-care dimensions. This preference form was stamped with the patient's identification and added to the patient's chart to be available to the nursing staff for care planning during the patient's stay at the unit. One copy was placed in the medical treatment record that nurses reviewed every shift; another copy was placed with the flow sheets on the patient's door to allow clinical assistants who normally do not read patients' charts to also review this information. Figure 1 shows a preference form for one of the patients in the study.

Each preference form had a different content, which reflected the patient's individually selected self-care dimensions. With a single glance at this form nurses could find concise information about dimensions of self-care that were more or less important to the patient to improve, allowing these dimensions to be integrated into their care planning. In control group B, patient preferences were elicited in the same manner as in group A, but this information was not provided to nurses. In control group C, patients received the usual care. The evaluation of patients' preference achievement was completed with the investigator in experimental group A and control group B at discharge. The elicitation of patient preferences in the admission interview lasted, on average, 5 to 15 minutes. The evaluation of patients' perceived preference achievement at discharge took about 10 to 15 minutes. To avoid contamination of treatment, patients were enrolled in this study in a tandem arrangement where control group C was completed first, followed by control group B, and finally by experimental group A.

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PATIENT'S PREFERENCES

Improve condition/ability in:	Importance	Comments/Progress
Pain Relief	10	
Getting to the Bathroom in Time	10	
Breathing * improve SOB, clear pneumonia	9	
Mobility/Ambulation * goal: being able to walk with walker	9	
Nutrition/Eating * poor appetite * learn about a proper diet	8	
Safety/Risk for Falling * unsteady	8	
Rest and Activity * needs sleeping pill to fall asleep * keep door shut at night	7	
Circulation * monitor blood pressure * attend to ulcer - left heel	7	
Bowel Functioning * constipation - Dulcolax daily	4	
Ability to Care for Own Health * information about side effects of medication	3	

Figure 1 Sample of patient preference form.

Results

This study stated three hypotheses and two additional research questions. Analysis of covariance (ANCOVA) was used for hypothesis testing to control for the possibly confounding effects of physical functioning and comorbidity on nurses' care priorities and the patient outcomes of preference achievement and patient satisfaction. The first hypothesis tested was that nurses' care priorities were more congruent with patient preferences for self-care capability when nurses were provided with preference information than when nurses were not provided with this information. Experimental group A and control group B were used for this analysis. In the first ANCOVA model, the ratio of the number of self-care dimensions selected by patients to corresponding self-care dimensions addressed at least once in the nursing documentation (designated match) was computed. The greater this ratio, the greater the proportion of matches and the higher the degree of congruence between patients' preferred self-care capability and nurses' care priorities.

In the second ANCOVA model, overall discrepancy scores were used as dependent variables measuring

the discrepancy between importance weights patients had assigned to self-care dimensions and ratings of nurses' care priorities. If a patient had denoted a particular self-care dimension as very important and this dimension was also a high priority for nurses, discrepancy was low. On the other hand, if a self-care dimension was important to the patient but was a low nurse priority, then the discrepancy score for that dimension was high. Thus the lower the discrepancy scores the higher the congruence between patient preferences and nurses care priorities.

Results of the first hypothesis are shown in Table 1, displaying group means on congruence between patient preferences and nurses' care priorities adjusted statistically for patients' physical functioning and comorbidity. Seventy-four percent of self-care dimensions selected by patients were addressed at least once in patients' charts in the experimental group, compared with 55 percent in the control group, a difference that was significant. Also, mean discrepancy scores were significantly lower in the experimental group than in the control group. Thus, hypothesis 1 was supported: nurses' care priorities were more congruent with patient preferences when nurses were provided with this information than when nurses were not. That nurses actively used information about patient preferences for care planning was further supported by the fact that nurses had spontaneously written comments (such as progress notes and nursing interventions) on a third of the patient preference forms without being particularly asked to do so.

The second hypothesis tested was that patients' preference achievement was greater when nurses were provided with information about patient preferences than when nurses were not provided with this information. Table 2 shows that adjusted group means for preference achievement were significantly higher for patients in the experimental group, which supports the second hypothesis. Providing nurses with information about patient preferences resulted in a greater preference achievement.

The third hypothesis tested was that patients' satisfaction was greater when nurses were provided with information about patient preferences than when nurses were not provided with this information. All three groups were used for this analysis. Table 3 shows that adjusted group means for patient satisfaction were not significantly different across groups, and the third hypothesis was *not* supported. Providing nurses with information about patient preferences did not result in greater patient satisfaction.

The purpose of this study was not only to investigate the effects of the experimental treatment on nurses'

Table 1 ■

Effect of Providing Nurses with Information about Patient Preferences on Congruence Between Patient Preferences and Nurses' Care Priorities: Adjusted Group Means on the Outcome Measure of Congruence Between Patients' Preferred Self-care Capability and Nurses' Care Priorities, by Experimental Group

	Control Group B (n = 50)		Experimental Treatment Group A (n = 49)		
	Mean	SD	Mean	SD	F Score
Match	0.55	0.20	0.74	0.18	31.62***
Discrepancy	4.5	1.6	3.7	1.3	8.32**

**P < 0.01
***P < 0.001
NOTE: The means in this table have been statistically adjusted for subjects' physical functioning and comorbidity.

Table 2 ■

Effect of Providing Nurses with Information about Patient Preferences on Preference Achievement: Adjusted Group Means on the Outcome Preference Achievement, by Experimental Group

	Control Group B (n = 50)		Experimental Treatment Group A (n = 49)		
	Mean	SD	Mean	SD	F Score
Preference achievement	0.56	0.20	0.71	0.21	18.63***

***P < 0.001
NOTE: The means in this table have been statistically adjusted for subjects' physical functioning and comorbidity.

care priorities and the patient outcomes of preference achievement and patient satisfaction, but also how they occurred. Therefore, a fourth question addressed the relationship between patients' preference achievement and congruence between patient preferences and nurses' care priorities. Zero-order correlations showed that there was no significant relationship between preference achievement and the match variable ($r = -0.01$, $P = 0.95$) that reflected whether self-care dimensions selected by patients were addressed in the nursing documentation at least once. But there was a significant negative correlation ($r = -0.26$, $P < 0.01$) between preference achievement and discrepancy scores—that is, the less the discrepancy, or the more congruent nurses' care priorities were with the importance patients placed on self-care dimensions, the better were patients able to achieve their preferences

Table 3 ■

Effect of Providing Nurses with Information about Patient Preferences on Patient Satisfaction: Adjusted Group Means for the Outcome Measure Patient Satisfaction, by Experimental Group

	Control Group C (n = 51)		Control Group B (n = 50)		Experimental Group A (n = 49)		
	Mean	SD	Mean	SD	Mean	SD	F Score
Patient satisfaction	241.4	36.2	244.2	34.8	247.4	34.5	0.16

NOTE: The means in this table have been statistically adjusted for subjects' physical functioning and comorbidity.

Table 4 ■

Effect of Providing Nurses with Information about Patient Preferences on Physical Functioning: Differences among Groups in Physical Functioning as Measured by the SIP at Admission and at Discharge

Dependent Variable	Control Group C (n = 51)		Control Group B (n = 50)		Experimental Group A (n = 49)		
	Mean	SD	Mean	SD	Mean	SD	F Score
SIP admission score	67.2	24.7	60.1	22.0	60.8	22.5	1.44
SIP discharge score	58.4	24.8	49.4	21.6	38.5	21.6	9.67**
SIP change score	8.8	14.9	10.7	19.4	22.4	18.5	8.7**

**$P < 0.01$
NOTE: SIP indicates Sickness Impact Profile.

for self-care capability. This finding indicates that better preference achievement in the experimental group could indeed be attributed to nursing care that was more consistent with patient preferences.

Finally, the relationship between patients' preference achievement and patient satisfaction was investigated. The correlation between these variables was significant ($r = 0.31$, $P < 0.01$). Patients who had a higher preference achievement were also more satisfied with nursing care. Thus, while there was no significant direct effect of the experimental treatment on patient satisfaction, there was an indirect effect, since patients in the experimental group had a significantly higher degree of preference achievement, which in turn was significantly associated with greater patient satisfaction.

Additional Findings: Physical Functioning

Physical functioning was measured as a control variable but provided additional interesting results. Table 4 shows analysis of variance results for group differences on SIP scores measuring physical functioning at admission and discharge and change scores from admission to discharge. While there were no significant differences in SIP scores between the three groups at admission, there were significant differences at discharge. Scheffe's test used for post-hoc testing showed that it was the experimental group that did significantly better, while the control groups were similar at discharge. Thus, patients in the experimental group not only had a better preference achievement, but also showed a greater improvement in physical functioning from admission to discharge. This supports the validity of findings for the supported second hypothesis and provides additional evidence of the effectiveness of the experimental treatment in improving patient outcomes.

Discussion

Summarizing the results, the present study found that eliciting patient preferences and providing nurses with this information resulted in significantly higher congruence between patient preferences for self-care capability and nurses' care priorities as reflected in the nursing documentation; significantly greater preference achievement; and significantly better physical functioning at discharge. Further, the more congruent nursing care was with patient preferences, the higher the patients' preference achievement. Also, preference achievement was significantly correlated with patient satisfaction. However, no direct effect of the experimental treatment was found on patient satisfaction.

In the context of existing literature on evaluating the effect of providing clinicians with information about patient preferences on clinical decision making and patient outcomes, this study's findings contribute to

an area where the knowledge base has yet been sparse. The current study's findings differ from those of the SUPPORT study that found that information about patient preferences failed to influence physicians' care decisions and to improve patient outcomes.[19] Much has been written about the possible reasons for the failure of the SUPPORT intervention that tested the effect of providing physicians with information about the preferences of dying patients on physicians' decisions and patient outcomes, including aspects of the professional culture and power structures in the physician–patient relationship. Also, many aspects of the SUPPORT study were not comparable with this study. The types of preferences that were elicited addressed life-and-death issues, thus being completely different from patient preferences for self-care capability in this study. Also, the SUPPORT study used a different methodology for preference elicitation, and nurses were the mediators who elicited and provided information about patient preferences to physicians. As pointed out by the SUPPORT investigators, there is no support in the literature for the expectation that physicians will change their behavior toward patients on the basis of a change in the practice of nursing.[19] This may suggest that the methods and circumstances by which information about patient preferences is elicited and conveyed and how well clinicians accept it as useful, as well as the domain involved, may be important factors in the success of these types of interventions. Also, information about patient preferences may be more readily accepted and integrated into patient care by nurses than by physicians, since this is consistent with underlying nursing philosophy that emphasizes the need to integrate patients' values, beliefs, and goals into decisions about patient care.

At first glance, it may seem somewhat surprising that the experimental treatment had no direct effect on patient satisfaction. There may be several reasons for this. One might be that the LOPSS lacked the sensitivity to measure the effect of the experimental treatment on patient satisfaction. LOPSS includes only a few items related to patient preferences or aspects of individualized care. Another reason may be the influence of other factors unrelated to the effect of the experimental treatment on patient satisfaction. Variables in the literature found to be associated with patient satisfaction are continuity of care, age, education, patients' expectations, illness status, treatment outcome, health providers' behaviors, and their interpersonal relationships with patients,[25,26] and the acquisition of knowledge and experience by a patient over repeated visits.[27] These possible sources of variation in patient satisfaction, in combination with the use of an instru-

ment that may not have been particularly sensitive to the experimental treatment, may explain why there were no significant differences among the study groups on total patient satisfaction scores. However, there was a positive relationship between preference achievement and patient satisfaction. This finding is consistent with results reported by Larrabee et al.,[28] who found that a patient's goal achievement was a predictor of the patient's perceived quality of nursing care. Also, this finding is consistent with the results of several studies in which treatment outcomes were identified as contributing to patient satisfaction.[29,30] However, treatment outcome is one of the less frequently measured variables associated with patient satisfaction.[26] Instruments to measure patient satisfaction with patient care usually include attributes such as admission, house staff, food services, other miscellaneous services, and health providers' behavior.[26,31] The significant relationship between preference achievement and patient satisfaction found in this and other studies suggests that the achievement of patients' preferred health states and desired goals should be included more often in the measurement of patient satisfaction. It may be an important predictor of how patients evaluate health services.

Conclusion

This study demonstrated that the technique for eliciting patient preferences and including them in nursing care planning used in this study is an effective and feasible strategy for improving nursing care and patient outcomes. This nursing study defined the concept of patient preferences for self-care capability conceptually, anchored it theoretically, developed a tool for eliciting and integrating patient preferences into nursing care, tested it in clinical practice, demonstrated its applicability and, finally, provided evidence of its effectiveness for improving nursing care and patient outcomes. The evaluation of patients' perceived preference achievement facilitated immediate feedback about the effect of nursing care on patient outcomes from the perspective of the patient.

While tested as a paper-based version in this study, the elicitation technique described here can be enhanced by developing a computer-based decision support system to assist nurses in eliciting patients' preferences; process this information into a format useful for care planning and make it available to the rest of the care team; integrate information about patient preferences as part of the computer-based patient record; use patients' preference achievements as a measure for outcome evaluation; or use preference information for research to gain a better understanding

of aspects patients consider important to reach their desired health states. The ease and feasibility of the preference elicitation interviews in this study suggest that the elicitation and evaluation method has a high potential to be included as part of nurses' admission assessment.

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