Published in final edited form as:

Am J Crit Care. 2012 November ; 21(6): 410–418. doi:10.4037/ajcc2012124.

Communication by Nurses in the Intensive Care Unit: Qualitative Analysis of Domains of Patient-Centered Care

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Abstract

Background—High quality communication is a key determinant and facilitator of patient-centered care. Nurses engage in the vast majority of communication with patients and families in the intensive care unit (ICU).

Objective—To perform a qualitative analysis of nurses' communication.

Methods—The study was conducted in a 26-bed cardiac/medical ICU in an academic hospital and a 26-bed general ICU in a Veterans Affairs hospital in Portland, OR. We reviewed 315 hours of ICU interactions and 53 interviews with 33 nurses to categorize communication interactions into five patient-centered care domains. Interviews were analyzed to identify major themes regarding nurses' roles and preferences for communicating with patients and families within the domains.

Results—Most nursing communication occurred in the biopsychosocial information exchange, “patient-as-person”, and “clinician-as-person” domains. Nurses endorsed the importance of the shared power and responsibility and therapeutic alliance domains but had relatively few communication interactions in these areas. Communication behaviors were strongly influenced by the nurses' roles as translators of information between physicians with patients and families and what they were and were not willing to communicate to patients and families.

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Note: The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs or the U.S Government.

Conclusions—Critical care, including communication, is a collaborative effort. Understanding how nurses engage in patient-centered communication in the ICU can guide future interventions to improve patient-centered care.

Keywords

nurse; communication; patient-centered care; critical care; intensive care

INTRODUCTION

The American College of Critical Care Medicine recommends patient-centered care (PCC) practices to improve outcomes in the intensive care unit (ICU) ¹. Communication is a critical component of PCC and patients and families have identified good communication as a critical aspect of high quality care in the ICU ^{2,3}. Indeed, it is the primary mechanism that healthcare providers, patients, and families use to share information, elicit preferences, convey assessments and plans, and make decisions ³⁻¹². Nurses provide the vast majority of bedside care and have the most opportunity to interact with patients and families ¹³ although many interventions to improve communication have not explicitly targeted nurses' contributions ¹⁴. There is a paucity of research regarding nurse communication in the ICU despite recommendations for nurses to be proficient in communication skills ¹⁵ and the importance of nurse communication for patients and families ^{2,16}.

Patient-centered care has several definitions but encompasses five domains: 1) the biopsychosocial perspective with a focus on information exchange, 2) the "patient-as-person", 3) sharing power and responsibility, 4) the therapeutic alliance, and 5) the "clinician-as-person" ¹⁷. The theoretical model of PCC is represented in Figure 1 with examples of behaviors and interactions and how these behaviors might contribute to specific outcomes. Analyzing nursing communication within this framework can facilitate better understanding of nurses' contributions to PCC. In addition, understanding the underpinnings of nurses' communication behaviors in specific PCC domains can guide the development of multi-disciplinary communication interventions that take advantage of nurses' strengths ¹⁸.

Our objective was to qualitatively examine nurse communication behaviors within the theoretical framework of PCC ¹⁹. We developed our ethnographic analysis around this framework to help identify constructs in order to improve the utility of the results ^{12,20}. Through interviews with nurses, we also examined their communication roles in order to better understand how and why nurses engage in specific domains of patient-centered communication with patients and families in the ICU.

METHODS

Overview and Setting

The data for this analysis comes from a study of patients in the ICU with end-stage liver disease (ESLD) conducted from 2007 to 2010. The study used a prospective, multiple case design ^{21,22} as previously described ²³. The study was conducted in a 26-bed cardiac-medical ICU at the Oregon Health & Science University Hospital and a 26-bed general ICU

at the Portland Veterans Affairs Medical Center, both teaching hospitals. Institutional Review Board (IRB) approval was obtained at both institutions and all participants completed the informed consent process

Six consecutive patients in the ICU with ESLD, along with their families, were enrolled. For the current analysis, all nurses caring for these patients and their families were eligible. These patients had a median ICU length of stay of 6 days with a range of 4 to 20. The length of observation comprised the patient's stay in the ICU, beginning within 48 hours of admission, and ending when life-sustaining therapies were withheld or withdrawn, the patient died, or was transferred out of the ICU. All six patients underwent mechanical ventilation during at least a portion of their ICU stay, four received renal replacement therapy (RRT), and four received vasopressors during their ICU admission. Two patients were listed on the liver transplant waiting list before their ICU admission and four were considered potential candidates. Three patients died in the ICU or shortly after discharge.

Data Collection & Analyses

A "case" had a spatial and temporal dimension, comprising the patient and those who interacted with the patient when the patient was in the ICU. Triangulation of data was provided by a combination of interviews and direct observation in the ICU, at family conferences and during more informal conversations between family members and health care providers. Trained observers observed interactions and communication at the bedside approximately 10 hours each day, focusing on times when major treatment decisions were made. They recorded field notes using a standardized format from 315 hours of ICU interactions and communication over a total of 45 observed ICU-patient days which were transcribed at the end of each observation shift.

We did not record nighttime observations but nurses caring for the patients during the night were eligible for interviews. These in-person, semi-structured interviews were conducted after major treatment decisions such that a nurse might be interviewed multiple times. All nurses who were approached for interviews agreed to participate. Interviews were audio-recorded, transcribed, and verified for accuracy. Data were entered into NVivo 7 (QRS International) for analysis.

For the present analysis, one investigator (CS) reviewed all the observational transcripts and nurse interviews. From the observational data, elements of verbal and non-verbal communication behaviors were categorized into each of the five domains of PCC. Similarly, interviews were analyzed to identify major themes regarding nurses' roles and preferences for communicating with patients and families within the domains. In particular, we reviewed the nurse interviews in order to determine the stated rationales how and why communication behaviors fell into specific PCC domains. A separate investigator (LH) co-reviewed the observational and nurse transcripts in order to corroborate the coding and thematic schemes. Disagreements regarding the categorization of communication into specific domains were settled after discussion and then coming to consensus. Comparisons were made between observed dialogue and behaviors and the rationale for these interactions as self-reported by nurses. Italics are used to distinguish quotes made by the nurses during interviews and plain-text quotes are from the observations.

RESULTS

The characteristics of the 54 nurses (one declined to participate from the 55 who were eligible) who participated are shown in Table 1. Most were women with a mean age of 41 (SD 10) and 14 years (SD 9) in practice. Of the 54 nurses, 33 were asked for an interview (all assented) and completed a total of 53 interviews.

Patient-Centered Care Domains

Biopsychosocial Domain—The biopsychosocial domain encompasses biomedical, psychological, and sociological aspects of illness and disease for the patient with a focus on information exchange. From directly observing the nursing interactions with patients and families, a large portion of nurse communication with patients and family was in this domain, most commonly related to acute biomedical problems. Topics frequently discussed included: review of vital signs, volume status and interventions, medical history, technical aspects of life-sustaining therapies, pain management, and hygiene. While these topics were often related to life-sustaining therapies, communication rarely focused on the implications of requiring these interventions. We observed several instances when nurses discussed the patient's blood pressure in relation to a vasopressor dose but did not discuss that vasopressor use indicated a patient was critically ill. For instance, when a patient required the initiation of a vasopressor to tolerate hemodialysis, the nurse told the family, "[The patient] looks good, BP's good".

Patient-as-person Domain—The "patient as person" domain encompasses attempts to understand the patient's unique personality outside of her/his illness²⁴. We observed many communication behaviors in this domain. These interactions often involved discussions about the patient's children, religion/spirituality, and career, as well as everyday topics such as the weather, television, and books. In addition, nurses frequently shared similar personal details about themselves. The conversational style was often informal or familiar; for instance, nurses referred to patients and family members with colloquialisms such as "buddy", "darling", "honey", and "sweetie". Patients, families, and nurses frequently shared small jokes and good-naturedly teased each other. Non-verbal communication behaviors were frequent as we observed numerous examples where nurses used touch and other personal interactions. These interactions included: offering and receiving hugs, holding hands, placing an arm around the person, and silently praying for the patient.

Sharing power and responsibility Domain—Sharing power and responsibility includes actively involving the patient or family member in treatment decision-making and forming an agreement on the plan of care. We did not observe many communication interactions between nurses and patients and families in this domain. In interviews, nurses acknowledged the overall importance of shared decision making, but noted that the decisions they made with patients usually focused on routine aspects of biomedical care that resulted from decisions previously made with physicians.

Therapeutic alliance Domain—The therapeutic alliance domain incorporates the clinician's knowledge of the patient's desires and is exemplified by working together on the

care plan. The ethnographic observations revealed some communication between nurses, patients, and families in this regard, mostly focused on direct biomedical concerns. Nurses coordinated care for the patient by communicating with the family about topics such as the patient's level of consciousness, response to pain and sedative medications, and bodily functions. We did not observe interactions where nurses ensured patients and families understood the care plan in terms of code status and liver transplantation.

Clinician-as-person Domain—The clinician-as-person domain includes appropriately involving other clinicians and self-recognition of the emotional responses to the patient and situation. Nurses routinely communicated with other clinicians, usually physicians, to inform them of their concerns. In addition, nurses reported and demonstrated how the patient's situation impacted them. For example, a nurse described her reaction when, in a family meeting, the physicians reported that the patient would not survive the transplant process, *"Of course, I had tears in my eyes... So I think that did help the family understand that this was tearing at us as well, and that we really weren't declining to offer treatment that would exist to help [the patient], that just there was really no hope."* This same nurse was later observed to have this interaction with the patient's family, *"This is tearing me up" as she wipes away tears*. Finally, we observed many instances of nurses discussing their feelings and challenges with other nurses and receiving emotional support in return. It was striking that they did not discuss with patients for families when their opinions differed from physicians but frequently discussed these concerns amongst themselves.

Nurses' Roles in Communication

After categorizing nurse communication into the PCC domains, we then evaluated the data to better understand why nurses communicated more or less in particular areas. We observed two overlapping themes that guided nurses' communication behaviors that stemmed from nurses' roles in the ICU, especially as they contrasted with physicians' roles. These themes provided much of the rationale that led to behaviors in particular PCC domains and gave insight into why nurses seemed to have few communication interactions in the shared-decision making and therapeutic alliance domains. The first theme was nurses felt that one of their key roles was serving as a translator or intermediary between physicians and patients and families. The second theme focused on topics that nurses were and were not willing to discuss with patients and families that we classified as *"said vs. not said"*.

Translator—Nurses often described translating physician communication to the patient and/or family members and vice versa. They translated medical jargon and clarified the overall plan, including how various diagnoses and treatments were indicators of illness severity, while in the presence of family members. For example, a nurse noted, *"I frequently jump in and restate questions if I think the doctor hasn't answered it or maybe didn't get the questions; or, I'd ask the person, could you restate that"*.

Nurses felt working as a translator was a key component of their role within the team structure. A nurse reported, *"I do believe we do things as a team. I allow the physicians to drive the initial direction of the plan. ... because I am with the patient all the time, I find myself to be acting as the eyes and ears, and so I see everything ...so my contributions are*

primarily to provide an insight that it's over the course of a consistent period of time rather than their insight, which is much more of a spot check, they go in once or twice in a 12-hour period." Another nurse reported, *"I think it is always important for the nurse to be in the room when physicians are talking to the family so you can hear what they say, and you can reinforce it later; 'cause the families do tend to have questions afterwards when the doctors leave, and you can reinforce what you know, remember this is what he said."*

Nurses sometimes felt their role was to be a one-way translator, translating information from the patient/family to the physician but not vice versa. They seemed to feel that it was not their role to directly correct patients' and families' misunderstandings regarding issues such as code status and liver transplantation. For example, a nurse recognized a patient was too ill to receive a transplant but did not inform the family. *"It is not my role to tell a family member, 'I am so sorry that you are off the [liver transplant waiting] list' because I didn't make the decision. This is something a physician needs to tell the family."* This nurse recognized a family member's misunderstanding of the process of liver transplant but said, *"And I never stopped and said that is incorrect"*. In response to a question regarding the meaning of this misunderstanding and how it would be clarified, this nurse replied, *"... someone needs to tell the patient and it is not us [nurses]."*

Nurses recognized problems and limits with translation from physician to patients and families. While they understood the physicians' assessments and their rationale for not discussing these thoughts with the patient and family, they felt constrained and frustrated in their ability to translate this information. For example, a nurse reported, *"I have a personal belief, and I have been in the ICU for twenty years, and most of the time families don't have enough information. They don't have the information they need to make a choice. We [nurses] talk amongst ourselves, or it is in the chart...and all those people [physicians] talk amongst themselves. They [physicians] have a kind of consensus of what they perceive, what they think is happening, but they are afraid to tell the family because they don't want to destroy hope. But, I think sometimes patients and families suffer because of that, [the physicians'] inability to come clean."*

Said vs. Not Said—We observed and the nurses described several different aspects of this theme. First, as alluded to in the previous quote, nurses often felt limited or constrained in their ability to communicate with patient and families. For example, we observed several instances where nurses had differences in opinion between themselves and physicians but did not disclose these differences. For instance, during an interview, a nurse reported feeling very strongly that the timing and pace of therapeutic interventions was delayed and slow. However, when talking to the family about this issue, this nurse told the family, *"[The patient] is doing a lot better today. I think we did a good job of catching it early."*

At other times, nurses seemed to want corroboration of their interpretation of events before talking with patients and families. Nurses conferred amongst themselves or with physicians when a patient's condition deteriorated unexpectedly, before sharing their concern with the family or the patient. For instance, when a patient's blood pressure dropped precipitously during dialysis and the patient's nurse conferred with the dialysis nurse very quietly while the family members in the room continued to talk amongst themselves.

There were multiple instances where nurses did not communicate with patients and families because they did not feel it was part of their role. For instance, nurses often seemed to feel that it was the physicians' responsibility to report bad news. They understood the seriousness of critical events for individual patients but did not directly discuss these issues with the patient or family, deferring to the physicians. For instance, a nurse was one of the first providers to learn the devastating results of an imaging study and clearly understood that the findings signified the patient would not survive the liver transplant process. However, this nurse deferred to physicians to tell the family. The nurse said, "I just talked to the doctors. They're down there looking at some stuff. They'll be up by 3:00 to talk to you about the results". But to a physician on the care team who asked, "Do they (family) have a clue?" the nurse replied, "They don't have a clue. I don't think I have the emotional stability to give one more piece of bad news".

Similarly, nurses rarely discussed code status, major issues about liver transplantation, and implications of hypotension, vasopressors, and RRT directly with the patients or family. When nurses recognized there were misunderstandings of life-sustaining therapies, they seldom tried to directly address the problem. This aspect of communication was shown in a previous quote about nurses functioning as one-way translators. As another example, patients and families often did not understand the contraindications to liver transplantation. A nurse caring for a severely acidemic patient receiving RRT and two vasopressors recognized that the family did not understand that these interventions signified the patient was too critically ill to safely receive a transplant. This nurse reflected, *"They really thought the patient was going to get a liver transplant, like it was just going to happen. I don't think they understand that process either. ... and I kind of just blew it off."*

Finally, nurses did not often have communication interactions with patients and families in the sharing power and responsibility and therapeutic alliance domains. These domains of PCC were usually felt to occur directly between the patients and families with the physicians. Nurses often explicitly referred to physicians as being the primary decision-makers and their role to carry out the consequences of these decisions. They reported that their decisions, such as vasopressor dosing, titration of supplemental oxygen, medication administration, and routine nursing care, did not lend themselves to shared decision making since there is not much choice for patients in these types of decisions. As a nurse reported, *"In most cases it is not really an issue because it is really if they [patients] don't go with the treatments they are going to die, and they are aware of that."*

Discussion

Patient-centered care is very important and nurse communication has a large impact on ICU quality¹⁶. In our study, we found that nurses mostly communicate with patients and families in the biopsychosocial, patient-as-person, and clinician-as-person domains of PCC. Nurses had less communication interactions in the therapeutic alliance and the shared power domains because they felt that they were not part of their role. They expressed support for including patients and families in these latter domains but felt the primary responsibility for providing these aspects of PCC rested with physicians.

Our study revealed two major themes to explain much of the communication behaviors between nurses and patients/families. Previous studies have reported on the role of ICU nurses as translators between physicians and patients/families^{16,25} and this approach is recommended²⁶. In terms of our *said vs. not said* theme, Bach reported that nurses wanted to maintain hope as one reason for not fully informing families of important aspects of care²⁵. Reinke reported that nurses outside the ICU expressed discomfort with directly discussing prognosis amongst patients with life-limiting illnesses but acted as a translator when they felt patients and physicians did not understand each other²⁷. Nurses involved in end-of-life care decisions for patients in the hospital and ICU reported that they felt constrained by not being able to act on their beliefs²⁸. In a study of ICU culture, nurses reported informal rules against speaking directly with patients and families about end-of-life care decisions²⁹. These data corroborate our observations that nurses act as translators between patients and families to physicians but not necessarily vice versa, leaving unsaid many aspects of physicians' assessments.

Our study shows that nurses have many interactions with patients and families in the patient-as-person domain and several studies have emphasized the importance of this role^{25,30-32}. Families appreciate nurses who treat the patient and family as persons in addition to sharing personal details about themselves¹⁶. Patients have reported that nurses are more friendly and less controlling than physicians³², emphasizing the enhanced role nurses play in the patient-as-person domain of PCC.

Nurses and physicians have different roles in decision-making, with physicians usually in the role of conducting formal discussions and forming decisions while nurses' roles include expounding, translating, and reviewing plans with patients and families^{28,33-35}. For example, 99.5% of nurses felt physicians should participate in do not resuscitate (DNR) orders, 81% felt nurses should be involved and while they infrequently initiated DNR conversations with families, 45% of them initiated these discussions with physicians³⁶. Nurses have been found to experience distress based on physician-made decisions with which they do not agree²⁸, a finding echoed in our study by a nurse feeling frustrated with physicians' "inability to come clean". However, we did not observe explicit communication interactions between nurses and patients and families that circumvented these decisions. Indeed, as in the *said vs. not said* theme, nurses discussed these dilemmas amongst themselves but not with patients or families.

Many of the communication interventions to improve quality of care in the ICU have been "physician-centric"^{14,37-39}. Interdisciplinary communication between physicians and nurses is often poor^{18,40-42} and improving outcomes through communication interventions has been difficult⁴³⁻⁴⁵. Furthermore, an intervention to include families on daily physician rounds, which usually focus on information exchange in the biopsychosocial domain, did not lead to improvements in overall satisfaction⁴⁶, suggesting that increasing the frequency of physician communication with families may not be sufficient to improve perceived quality of care. It is unclear if multi-faceted strategies that do not explicitly include changes in bedside nurse communication with patients and families improve care⁴⁷⁻⁴⁹. Thus, communication interventions to improve overall patient centered care may need a more interdisciplinary focus and explicitly include nurse communication⁹.

This study has several strengths. First, we used rigorous qualitative methodologic techniques and our analysis was explicitly guided by a theoretical model in order to ensure a comprehensive organized analysis and relay results in a way that can better guide future research and interventions. Second, while the observations centered on only six patients, we observed 315 hours of ICU interactions and completed 53 nurse interviews to provide an in-depth analysis. We had 98% participation from nurses so there is minimal risk of response bias. Finally, communication may be of lower quality for patients who die in the ICU⁵⁰ and as most patients survive their ICU stay⁵¹, it is important to include survivors and non-survivors.

Despite these strengths, the study has several limitations. This study was conducted in two teaching hospitals among patients with ESLD so our findings may not be applicable to other settings and patient populations. There may be differences in the communication amongst dayshift and nightshift nurses as we interviewed the nightshift nurses but did not directly observe their interactions with patients and families. We attempted to present our findings transparently and while the categorization of communication into five domains was guided by a widely used theoretical model, our categorization of nurse communication interactions is subjective. Finally, in this report, we did not evaluate the thoughts and feelings of physicians or patients and families regarding nurse communication and cannot measure the effect of nurse communication on outcomes.

Patient-centered critical care requires a collaborative approach that takes advantage of all the skills and expertise provide by individual members of the ICU team. It is unrealistic to expect an individual provider to provide all aspects of patient-centered communication with each individual patient and family. Nurses provide the vast majority of bedside care to patients and families and accordingly have the most opportunities to communicate with them. We found that nurses often engage in the biopsychosocial, patient-as-person, and clinician-as-person patient-centered care domains. They are supportive of the shared decision making and therapeutic alliance domains though feel that in general these domains are best provided by physicians. These results should guide the development of interventions in order to take advantage of nurses' strengths and roles in order to improve patient-centered care in the ICU.

Acknowledgments

The study was funded by grant R21 NR009845 from the National Institute of Nursing Research to Dr. Hansen. Dr. Slatore is a VA HSRD Career Development Awardee. This study is the result of work supported by resources from the Portland VA Medical Center, Portland, Oregon. Neither the NIH nor the Department of Veterans Affairs had a role in the conduct of the study, in the collection, management, analysis, or interpretation of data, or in the preparation of the manuscript.

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Key Points

- We studied the communication interactions through observation and interview of 54 nurses caring for 6 patients in the ICU.
- Patient-centered critical care requires a collaborative approach that takes advantage of all the skills and expertise provide by individual members of the ICU team.
- Communication is a critical component of patient-centered care.
- Nurses often engage in the biopsychosocial, patient-as-person, and clinician-as-person patient-centered care domains.
- Nurses are supportive of the shared decision making and therapeutic alliance domains though feel that in general these domains are best provided by physicians.
- Our results should guide the development of interventions in order to take advantage of nurses' strengths and roles in order to improve patient-centered care in the ICU.

Figure 1.

Theoretic Model of Patient-Centered Communication Components to ICU Outcomes
relationship of the five domains of patient-centered communication and its influence on important patient and family outcomes

Table 1

Characteristics of Nurses in the Ethnographic Analysis

Characteristic	<i>N or mean</i>	<i>% or SD</i>
Female	42	78%
Age (years)	41	10
Race/Ethnicity		
White	45	83%
Other	9	17%
Years of Practice	14	9

Abbreviations: SD: standard deviation.