Independent Nursing Actions in Cooperative Care

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Purpose/Objectives: To identify and describe independent nursing actions in cooperative care.

Design: Qualitative, descriptive, inductive study.

Setting: The Nebraska Medical Center's Lied Transplant Center in Omaha, where lay care partners assume responsibility for acute care of transplant recipients in partnership with nurses.

Sample: 12 cooperative care nurses.

Methods: Two focus groups, 59 narrative logs, and three follow-up interviews were tape recorded, transcribed, and content analyzed.

Main Research Variable: Independent nursing actions in cooperative care.

Findings: Independent nursing actions included surveillance, teaching, coaching, fostering partnerships, providing psychosocial support, rescuing, and coordinating. Surveillance leads to problem identification that, in turn, triggers other actions. Because all nursing actions occur in the context of nurse, dyad, and healthcare team relationships, coordinating is the category of nursing action used to manage all aspects of care.

Conclusions: The nurses integrated specialized knowledge and expertise while dynamically using surveillance to identify problems that trigger nursing actions to manage signs and symptoms. Cooperative care is an example of apprenticeship or guided participation in which a community of experts (nurses) guides, supports, and challenges novices (lay individuals) to participate in skilled activities until the responsibility for the activities can be transferred to the novice.

Implications for Nursing: Independent nursing actions identified in this study are the first step in formulating an instrument to measure "doses" (frequency and intensity) of nursing actions in cooperative care. Such an instrument is needed to evaluate interventions designed to prepare and support lay care partners.

Key Points . . .

- Preparation of lay individuals to assume acute care responsibility in cooperative care requires skilled independent nursing intervention.
- The partnership between the cooperative care nurse and recipient and care partner dyad involves blending the dyad's unique local knowledge of the situation with the knowledge and skills of the professional nurse to provide the care needed for optimal outcomes.
- Use of narrative logs dictated immediately following episodes of caregiving is an effective data collection method for articulating the work of nursing in cooperative care.

Cooperative care is an innovative acute care delivery model used in the care of blood and marrow stem cell transplant (BMSCT) recipients at The Nebraska Medical Center. This delivery model is based on a partnership between BMSCT recipient and care partner dyads and healthcare professionals. A lay care partner, typically a spouse or other family member, stays in a hotel-like suite with the transplant recipient and partners with nurses to provide acute care for the transplant recipient.

Significance and Background

The cooperative care model is designed to provide cost-effective and efficient care for complex patients who otherwise would be in an acute inpatient setting (Grieco, McClure, Komiske, & Menard, 1994; Schmit-Pokorny, Franco, Frappier, & Vyhlidal, 2003). Lay caregivers are responsible for care activities that traditionally are provided by professionals in the acute hospital setting. The preparation and education of lay individuals to assume these responsibilities are key nursing functions (Franco et al., 1996; Schmit-Pokorny et al.) and are paramount to ensure outcome quality. During the process of cooperative care, nurses remain responsible for outcomes and frequently initiate independent actions to manage signs and symptoms and avoid negative consequences.

All care partners require and receive extensive education to prepare them for the caregiving role. The ultimate indicator of the effectiveness of this education is caregiver performance. Because no care partner can be allowed to "fail," care partners with lower competency require more independent nursing actions to prevent adverse events. No measurement exists to capture the nature and dose (i.e., frequency and intensity) of independent nursing actions used for the BMSCT dyad in cooperative care. This article describes the identification of these actions. Figure 1 illustrates the authors' conceptualization of the implementation of cooperative care where nurses partner

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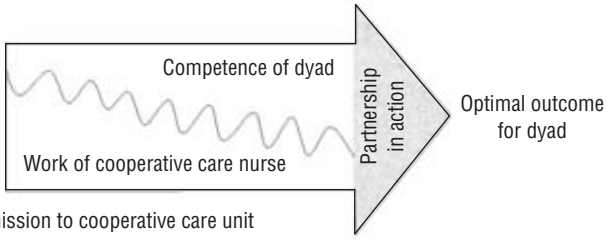

Figure 1. Conceptualization of Cooperative Care

with the dyad to achieve optimal outcomes. The independent nursing actions are depicted as the work of the cooperative care nurse. As the competency of the dyad increases, the work of the cooperative care nurse decreases. The care recipient and care partner come to cooperative care with a level of knowledge and skill based on previous experience. The amount of care provided by the dyad and its members' ability to be active participants in the healthcare team (partnership in action) are expected to increase with experience and time in cooperative care. Identification of independent nursing actions is essential to a better understanding and articulation of the work of cooperative care nurses and for the development of an instrument to quantify these actions for future research.

Literature Review

The contribution of nursing to quality patient care is difficult to articulate and frequently unrecognized by others outside the nursing profession (Payne, 2000). Attempts have been made to define and describe nursing as well as to develop a classification system for nursing (Benner, 1984; Martin & Scheet, 1992; McCloskey & Bulechek, 2000; Saba et al., 1991; Werley & Lang, 1988). However, the clear articulation of what constitutes nursing still is lacking.

The transition of care from the acute care facility has shifted health-related activities to lay caregivers. Family members become caregivers and are responsible for health-related activities previously provided by professional or highly skilled healthcare staff. Successful outcomes are dependent on highly skilled professional staff to support patients and lay caregivers (Franco et al., 1996; Grimm, Zawacki, Mock, Krumm, & Frink, 2000). The specific nursing actions essential to support these care-delivery models are not articulated clearly.

Caregiving rendered in the home has been a focus of studies in populations such as older adults and those with Alzheimer disease, AIDS or HIV, and cancer (Bull, Maruyama, & Luo, 1995; Grimm et al., 2000; Harris, 1993; Turner & Catania, 1997). Traditional acute care and home care researchers have addressed the involvement of families in terms of their relationship to the professional staff but not as primary caregivers (Callery & Smith, 1991; Compton, McDonald, & Stetz, 1996). Although study of lay caregivers is receiving more emphasis, the focus tends to be on caregiver experience rather than interventions to alter that experience. Research regarding the best way to prepare and support lay caregivers is limited (Grimm et al.; Heermann, Eilers, & Carney, 2001).

Traditional institution-based health care places nurses in a position of control. Partnering with lay caregivers requires nurses to forfeit aspects of this control while maintaining responsibility for outcomes. Gallant, Beaulieu, and Carnevale (2002) identified a process of partnership built on power sharing and negotiation that leads to patient empowerment. Collaboration built on a high level of respect for the knowledge each party brings to the interaction is an essential component of partnership (Henneman, Lee, & Cohen, 1995). In models of patient-centered or family-focused care, nurses are encouraged to broaden their approach and develop partnerships with lay caregivers (Bull et al., 1995; Harvath et al., 1994; Heermann & Wilson, 2000). A lay caregiver brings unique knowledge of the care recipient, known as "local" knowledge, but is a novice in transplant care. A professional nurse, as the expert in transplant care, brings the universal and generalizable knowledge of the disease or illness and its treatment (Benner, 1984; Harvath et al.).

The cooperative care setting is designed to encourage the blending of knowledge in the partnership. The collaborative and tailored approach in cooperative care improves patient outcomes as well as satisfaction (Schmit-Pokorny et al., 2003). Most intervention studies to increase lay caregivers' knowledge and ability have examined teaching of skills (Devine & Westlake, 1995). Evaluating competence is a critical aspect of teaching complex self-care responsibilities or tasks to lay individuals. Few reports have included exploration of the competence of the caregiver and its effect on outcomes.

Nurses in cooperative care partner with lay caregivers who may not be competent yet in care activities. Although caregivers are expected to assume responsibility for patient care, nurses provide the additional "boost" of education, assistance, or support needed to avoid negative consequences. These actions by nurses ensure optimum patient outcomes but may complicate the evaluation of interventions designed to increase lay caregiver competence. Understanding the independent nursing actions used by cooperative care nurses to support, assist, or rescue the recipient and care partner dyad will provide groundwork to design and examine the effectiveness of interventions intended to promote and evaluate mastery of skills.

The purpose of this study was to identify and describe independent nursing actions for BMSCT recipients and their care partners in a cooperative care setting. The nurses directly involved in partnering with the recipient and care partner dyads provided the data for this study.

Methods

A qualitative, descriptive, inductive design was used to generate data and describe independent nursing actions in cooperative care. The study site was the Lied Transplant Center at The Nebraska Medical Center in Omaha.

Setting and Sample

The Peggy D. Cowdery Treatment Center is located on the third level of the Lied Transplant Center, 22 cooperative care patient suites are on the fourth level, and levels five through seven have outpatient guest suites. During each 12-hour shift, cooperative care nurses confer with care partners, assess BMSCT recipients, collaboratively plan recipients' care, and are available to provide assistance as needed. The interdependent nursing actions, such as stem cell infusion and blood product administration, are completed by staff nurses in the treatment center rather than by cooperative care nurses. The

regular staff population of 12 nurses working in cooperative care at the Lied Transplant Center during this study comprised the sample.

Procedure

Institutional review board approval of the study was obtained. Data collection and analysis were done in three phases (see Figure 2). All analysis of data occurred in research team meetings. Decisions about data analysis, including codes, categories, and final conceptualization, were achieved by team consensus.

In phase one, 10 of the 12 cooperative care nurses participated in one of two focus groups. Two investigators guided the discussion of independent nursing actions implemented to assist care partners in providing care to BMSCT recipients. The focus group transcripts were reviewed for independent nursing actions and coded line by line. Examples of early codes were "reviewing medications" and "teaching symptom management." Analysis of the focus group data also was used to develop the instructions and questions for the second phase of data collection. In phase two, nurses used a hand-held tape recorder to dictate their actions and thoughts as they cared for the BMSCT dyads. Nurse participants dictated narrative logs during each 12-hour shift for a seven-day period.

Phase three was identical to phase two but was scheduled for a week when the cooperative care unit had larger numbers of BMSCT recipients. Narrative logs described all 28 shifts in the two seven-day periods with a total of 59 logs. Follow-up interviews were held with three informants to probe more deeply into actions identified in their narrative logs. As each phase of coding was completed, the research team grouped the actions into categories. Phase three codes and categories were compared to phase two results to check for data saturation. In a staff meeting, a subset of the nurse participants reviewed the findings to affirm accuracy. At the end of phase three, further analysis of the categories and a search of pertinent research and theoretical literature led to the conceptualization of independent nursing actions presented in the next section.

Phase one
- Focus groups
- Audio tapes transcribed verbatim
- Coded for independent nursing actions
- Began development of conceptual categories

Phase two
- Narrative logs
- Audio tapes transcribed verbatim
- Coded for independent nursing actions
- Continued development of conceptual categories

Phase three
- Narrative logs
- Interviewed three participants to expand narrative logs
- Audio tapes transcribed verbatim
- Coded for independent nursing actions
- Reviewed transcripts and codes for completeness
- Compared codes to results of phase two
- Completed development of conceptual categories
- Codes and categories reviewed by a subset of participants for accuracy and completeness
- Searched pertinent research and theoretical literature
- Developed conceptual model

Figure 2. Data Collection and Analysis

Results

The intended outcome of the independent nursing actions was management of signs and symptoms (i.e., all the manifestations associated with the disease process and treatment) accomplished in partnership with each dyad. The research team's discussion about the relationships between and among the categories of nursing actions resulted in the conceptualization of cooperative care nursing actions illustrated in Figure 3. The model is depicted as a series of overlying components. Surveillance is the pervasive nursing action that continues while the other actions are under way. Surveillance leads to problem identification that in turn triggers other actions (teaching, coaching, fostering partnership, providing psychosocial support, and rescuing). As all nursing actions occur in the context of nurse, dyad, and healthcare team relationships, coordinating is the category of nursing action used to manage all aspects of the care.

Surveillance: Surveillance describes the independent nursing actions used to monitor and analyze a transplant recipient's condition and the ability of the dyad to meet the requirements of cooperative care. Many unpleasant but expected signs and symptoms can be anticipated based on nurses' expert knowledge of the disease and treatment trajectory. Signs and symptoms commonly encountered include nausea, dehydration, fever, infection, and constipation. Some surveillance involved direct observation of a recipient's physical condition.

> The [peripherally inserted central catheter] entry site is still pink, warm, and hardened, though the swelling has gone down and it's less red. There's only a little bit of pain.

Surveillance by nurses often was accomplished through conversations with dyads and review of data recorded by care partners.

> I did a walk through, checking my patients in their rooms, mainly because I haven't gotten calls from them. I always like to make sure that the reason they didn't call is because nothing's going on.

> I called and asked, "How's he doing on nausea?" His wife said he seems to be doing okay. He actually drank over two liters. She is really good about making sure he takes his [as-needed] antiemetics.

Surveillance is the key independent nursing action that identifies problems or potential problems that trigger the actions listed below.

Teaching: Teaching is providing instruction on technical care activities, medications, and participation in cooperative care, as well as information about the anticipated trajectory of disease and treatment to help the dyad acquire necessary knowledge and skills.

Nurses in cooperative care presented much of the information in standard packages for routines, disease and treatment trajectories, and specific events.

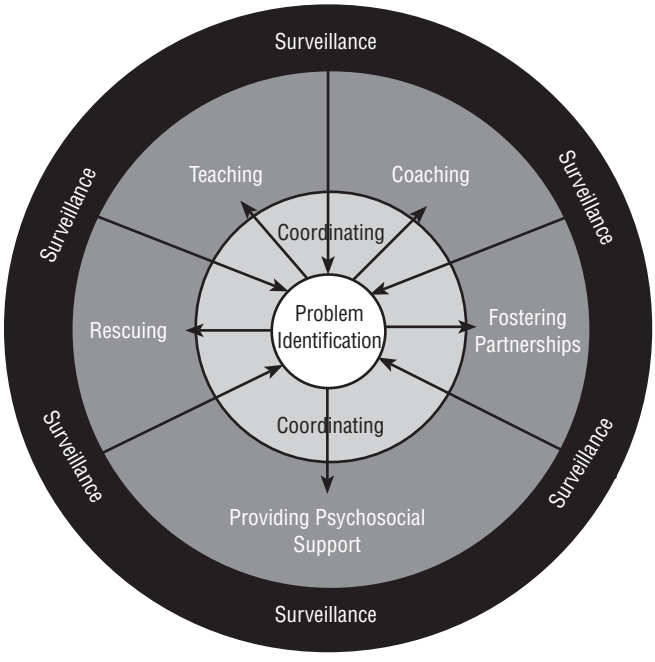

Figure 3. Independent Nursing Actions to Manage Signs and Symptoms in Cooperative Care

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> We went over the routines for cooperative care and made sure they knew how to call, to use the emergency system, to get and record vital signs, and the parameters for when they need to call.

"Just in time" teaching included teaching tailored to the events of the moment.

> We got an order for [an antidiarrheal], so I gave them eight doses, and I explained to her how to take it and when to do it and put it on her med sheet.

Coaching: Coaching is working with dyads to apply knowledge and to improve care partners' ability to perform the necessary skills. Coaching techniques include feedback, validation, support, and reassurance. Coaching often involved helping a care partner apply previous learning.

> I talked [the care partner] through drawing blood and made sure she did okay.

> I reinforced that she needs to start wearing masks because she hasn't been wearing one yet.

> I reviewed [the administration of IV medications] with her; I observed her doing the whole process, which she did fine. She said she felt comfortable in doing it, so I did watch her hook up the [antibiotic], and she said if she had any problems she would call.

Fostering partnerships: Independent actions are used by nurses to foster two key partnerships in cooperative care. These are the partnerships between dyads and nurses and between recipients and care partners. Communication and reinforcement of the concept of active partnerships are used to nurture and develop collaboration as the partners (recipients, care partners, and nurses) "learn to dance together." One nurse identified routine ways of attempting to ensure communication.

> I reviewed their med sheet again just to make sure she knows what she's doing and kept reinforcing over and over that she's to call us if she has any problems at all—not to hesitate.

Another example of promoting communication was a nurse who said, "We have lots of medicine to help with this, and let us know if things aren't working out. There are different things we can try."

Nurses supported dyads' decision making by providing anticipatory guidance.

> I reviewed with her and her sister what to do for nausea and maybe going ahead to start premedicating before meals tomorrow because her scheduled [antiemetic] stopped this evening. We worked out a plan, and we're going to see how it works.

Recipient and care partner dyads' ability or readiness to contribute to care may vary. Many factors can contribute to this variation, including the level of knowledge or understanding, previous experiences, the amount of trust in or fear of the healthcare team, current physical state, level of stress, and their own self-awareness. Much of the management of signs and symptoms was accomplished remotely by nurses through collaboration with recipient and care partner dyads. The dyads' expertise or mastery of skills was an important factor in this management. One nurse evaluated a BMSCT recipient's ability to add to her own plan of care by stating, "She's very aware of her physical health and the things that are going on with her. She'll be contributing a lot to our care."

Negotiation and the sharing of power involve relinquishing some of the control that is a part of traditional nursing so a climate of collaboration and respect for the knowledge each party brings to the partnership can develop.

One nurse described how she began to establish a partnership.

> I spent a little time getting to know them and talking about their child, instead of spending a lot of time on the technical portion of cooperative care, so they know that I'm interested in more than just his diagnosis and his health.

Another nurse explained how she fosters an active partnership rather than a state of dependence with a dyad.

> I told them that next time, if I say, "I'm going to get an order," go ahead and give me a call if you haven't heard from me within a half hour. I had actually forgotten, and I tried to be pretty honest about that.

The dynamics in the dyad also may have an effect on people's ability to effectively participate in care. Preexisting patterns of behavior continue into the cooperative care experience.

> You know, [the care partner] gets really stressed out about doing some of this stuff, and [the recipient] doesn't really go out of his way to help her. I mean, he's perfectly able to take his own pills and do some of these things by himself, but he has her do it.

Fostering the partnership includes caring for the well-being of the care partner, who may become overwhelmed with information and responsibility. The care partner may have or develop healthcare needs during the cooperative care stay and require assessment by the nurse. If the recipient requires assistance around the clock, the care partner also may become sleep deprived. Nurses described looking for cues of a care partner's need for support or care.

> The care partner called down and said they were having problems with the blood pressure machine. Well, come to find out they were taking the blood pressure on the care partner and it was really high. I went up and retook it, and it was still high, so I reinforced with him to take his medication as scheduled, what signs and symptoms to look for, and that [the care partner] needs to go see a family doctor tomorrow when he goes home.

Providing psychosocial support: Providing psychosocial support describes nursing actions directed at the psychosocial well-being of the dyad.

> They were pretty nervous at first, but once I talked to them for a while, they felt much better in doing the care.

> She's anxious, they're elderly, they're hard of hearing. It's gonna take them a little bit. They just need a little TLC as far as I'm concerned to make them feel comfortable in our unit.

> Today is her transplant. She was pretty nervous and scared about it. She seems to make a lot of remarks like, "Am I gonna make it through this?" and you know we give her reassurance.

Rescuing: Rescuing is direct nursing intervention to avoid serious consequences. The actions clustered here represent a nurse's return to hands-on nursing care. Rescuing may involve taking control of the care decisions or directly giving care. This aspect of cooperative care nursing provides a safety net to help ensure outcome quality.

> I saw her sister in the hall at about six o'clock, and she said that Margaret had a temperature of 101.2 at noon and had been sleeping all day. I told her to recheck it, and she called me and said it's 103.1. I told her to bring Margaret downstairs to see the [physician's assistant] for cultures, fluids, and antibiotics. Ten minutes go by, so I went to the room and Margaret was taking a shower. I told them she needs to come downstairs right now.

The limits of the ability or understanding of the recipient and care partner dyad were exceeded, and prompt intervention was needed. Rescuing is used when situation-specific care partner competency is low and urgency is high. Another example is when a cooperative care nurse assesses that a care partner is near exhaustion from providing 24-hour care and is fearful of making a mistake with a very sick recipient. The nurse may choose to rescue by admitting the recipient to the hospital or moving him or her to the treatment center for a time.

Coordinating: Coordinating involves managing overall care. Nurses intervene to ensure that dyads' needs are met without interfering with their autonomy any more than necessary. This requires the instincts and judgment of an experienced nurse, the sharp eye of an investigator, and the organization, charm, and diplomacy of a hotel concierge. Anticipating, scheduling, informing, confirming, planning, and "smoothing things out" are all independent nursing actions clustered in this category. One nurse provided the following description.

> I contacted social work after I talked to the [physician's assistant]. I asked to try and delay dismissal until Monday so we can get a plan started so that when we do send her home, the family's not overwhelmed.

Nurses coordinated many care activities with dyads.

> I met up with [the care partner] in the hallway about noon, just talked to them about their IV [antibiotic] tonight and the premeds before. And then we set up a time to rendezvous to get the IV [diphenhydramine] before the [antibiotic] tonight.

> I went to room 20 to check his IVs, to find out what time we would have to change his replacement one, and discussed with them how we're gonna do that and then also reminded him that he would have to come down to the treatment center in the morning for his AM labs, and he was to do that at the same time he gets his morning chemo.

Discussion

The contribution of nursing to quality care frequently is difficult to articulate and therefore goes unrecognized. Analysis of the narrative logs clarified the visible and invisible work of nursing in cooperative care. In the model, the nurses integrated specialized knowledge and expertise while dynamically using surveillance to identify problems that trigger nursing actions to manage signs and symptoms.

Surveillance is the key independent nursing action on which the entire process of cooperative care depends. McCloskey and Bulechek (2000) defined surveillance as "purposeful and ongoing acquisition, interpretation, and synthesis of patient data for clinical decision making" (p. 629). The Institute of Medicine report *Keeping Patients Safe: Transforming the Work Environment of Nurses* (Page, 2004) also pointed to the critical role of surveillance in the early detection of potential problems. Nurses constitute the early warning system in patient care through the use of cognitive and behavioral skills. Surveillance expands to include "watchful vigilance" (Fairman, 1992, p. 56) over the competency and skill performance of the care partner in cooperative care. Benner, Hooper-Kyriakidis, and Stannard (1999) developed the concept of clinical forethought to refer to the "habits of thought" (p. 64) that nurses use to anticipate potential problems and initiate nursing actions. The cooperative care nurses in this study were experienced acute care nurses who had developed the skills of clinical forethought.

Knowledge is essential to effective problem solving (Bransford, Sherwood, Vye, & Rieser, 1986). This includes factual knowledge and procedural knowledge (e.g., "how to do things"). The extensiveness of the knowledge base accounts for the differences in the problem-solving abilities of novices and experts in knowledge-rich domains such as nursing (Wagman, 2002). In cooperative care, the nurses are experts and the recipient and care partner dyads are novices.

The extent of the knowledge base is thought to contribute to another important aspect of problem solving—identifying a problem when it exists. Cooperative care nurses use surveillance to be certain that dyads are not missing a problem. The

ability to identify problems is facilitated by experts recognizing patterns of problems and then matching problem-solution schemata to the identified problems (Wagman, 2002). Benner and Tanner (1987) pointed out that what nurses have called "intuition" is actually the ability to recognize patterns as well as the salience of the pattern. This recognition increases nurses' perceptual awareness and enables them to develop algorithms that are the basis for care partner education modules that include managing common signs and symptoms.

An active partnership is proposed as essential for optimal outcomes in cooperative care. A dyad's unique local knowledge of both members' situations is blended with the knowledge of the professional nurse to enable selection of the most effective strategy for care (Harvath et al., 1994). Rogoff (1990) described a process of guided participation in which skilled partners engage novices in an apprentice-like process so that, gradually, the novice is able to participate fully in the activity. Shared problem solving is a key element of guided participation, with an expert structuring the problems and solutions so that a novice can focus on a manageable aspect of the problem. Cooperative care is an example of apprenticeship or guided participation in which a community of experts (nurses) guides, supports, and challenges novices (lay individuals) to participate in a skilled activity (e.g., monitoring vital signs) until the responsibility for the activity can be transferred to the novices. The conceptualization of cooperative care depicted in Figure 1 was supported by the findings of this study.

In 1983, Pyles and Stern described a similar pattern where expert nurses mentored novice nurses (rather than care partners) into critical care nursing. They named this pattern the "gray gorilla syndrome." In the wild, the silverback gray gorilla teaches, leads, and protects his social group (Fossey, 1970). The expert clinician "gray gorilla" nurse also mentors and guards against error. In cooperative care, nurses do all of these things, including rescuing when the urgency of a clinical situation demands a response that is beyond the competency of a care partner. Rescuing is an important concept in current literature regarding the nursing workforce (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Blakeney, 2003; Page, 2004; Silber, Williams, Krakauer, & Schwartz, 1992). Failure to rescue is a clinical outcome where inadequate surveillance leads to a failure to recognize a developing complication or adverse event and a patient's health status is negatively affected (Page). Decreasing the rates of "failure to rescue" is a critical outcome for healthcare systems (Silber et al.). Rescuing is the critical safety net that allows the cooperative care model to succeed.

Coordinating is the orchestration of nursing actions, the involvement of other members of the healthcare team, and the activities of the recipient and care partner dyad. This orchestration decreases the fragmentation of care that otherwise might result from the participation of many members of the healthcare team. Coordinating in cooperative care does not preempt the role of the care partner but rather is an aspect of the partnership.

Implications for Nursing Practice and Research

The intent of this study was to articulate independent nursing actions so that future work could focus on the development of an instrument to measure dose (frequency and intensity) of independent nursing actions. Once such an instrument is developed and adequately tested, implications for practice should be more apparent. This study was conducted in one institution (the only institution that currently uses the cooperative care model for BMSCT recipients). Future research might include testing of this model in other settings where nurses partner with lay caregivers to deliver care. Because this is an initial study with a small sample, caution is warranted regarding the implications for nursing. As this program of research evolves, possible implications include changes in the basic educational preparation of nurses, approaches to the education of lay caregivers, and evaluation of the knowledge and skill level required for nurse assignment in this new care delivery model. Ultimately, these changes may influence the cost effectiveness of cooperative care.

An instrument is being developed to evaluate interventions designed to prepare and support lay care partners. For example, do teaching modules presented before a dyad enters cooperative care decrease the dose of nursing actions required during the dyad's stay?

Conclusion

Nurses frequently are involved in preparing lay individuals to assume responsibility for the care of acutely and chronically ill family members. In this role, nurses are required to evaluate the competence of these individuals without specific methods and tools. Articulation of the work of cooperative care nurses caring for BMSCT dyads is the first step in the development of an instrument to measure the dose of nursing actions in cooperative care. Although this study involved only one group of nurses in one institution with a specific type of patient, the resulting conceptualization may be tested in any setting where nurses are expected to prepare lay individuals to assume care responsibility.

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