AACN Synergy Model for Patient Care

Case Study of a CHF Patient

Sonya Hardin, RN, PhD, CCRN, CS
Leslie Hussey, RN, PhD

The AACN Synergy Model for Patient Care describes a framework for nursing practice. The key to this model is the linkage of patient characteristics with nurse competencies to achieve optimal patient outcomes.[1] The Synergy Model is readily adaptable to the acute care or critical care setting when the patient is critically ill and the intensive care nurse links his or her own competencies to the patient's characteristics. However, not all acute care is conducted within the walls of the hospital setting. Today's healthcare environment mandates that patients with serious diseases live in their homes, causing the need for acute and critical care settings to reach out to their patients not only to assist them in maintaining a quality of life but also to decrease costs of hospital readmissions. This situation is especially true for patients with chronic heart failure (CHF). In the United States, many patients with CHF regularly visit CHF clinics that are run by advanced practice nurses; these clinics assist patients with maintaining and often improving their state of heart failure, while also proving cost-effective.

The Synergy Model provides the framework for nurses to manage complex clients experiencing acute exasperation of their illness and to work toward reducing the trajectory of the illness. The purpose of this article is to discuss the application of The Synergy Model to an ambulatory CHF clinic. We will discuss the characteristics of a patient who visited a local clinic, with the advanced practice nurse holding a role as a clinical nurse specialist (CNS)/adult nurse practitioner (ANP). The advanced practice nurse with a CNS/ANP degree can have a significant impact on healthcare by preventing chronic illness and promoting healthy lifestyles and influence the delivery, cost, and quality of healthcare to persons with chronic illness.[2]

Authors

Sonya Hardin is an assistant professor and coordinator of the MSN/MHA program at the School of Nursing, University of NC at Charlotte, NC.

Leslie Hussey is an associate professor at the School of Nursing, Chair Adult Health Nursing Department, University of NC at Charlotte.

To purchase reprints, contact The InnoVision Group, 101 Columbia, Aliso Viejo, CA 92656. Phone, (800) 809-2273 or (949) 362-2050 (ext 532); fax, (949) 362-2049; e-mail, reprints@aacn.org.

Background of CHF

CHF is a major public health problem; it is the most common diagnosis for people older than 65 years of age who are discharged from hospitals. CHF is a progressive and chronic disease that limits patients' functional status and severely lowers their quality of life. Currently, CHF is the number one diagnosis of Medicare beneficiaries, costing $10 to $30 billion annually.[3] Although significant advances have been made in determining both the pathophysiology and therapy for CHF, there has been surprisingly little change in mortality rates over the past 4 decades.[4] The 5-year mortality rate for patients with symptomatic heart failure is almost 50%, and up to 40% of these deaths are sudden.[5]

CHF not only increases mortality but also has a dramatic effect on patients' functional ability and quality of life. Nearly 1 million patients with CHF cannot live their lives without some restriction on activity because of the signs and symptoms of heart failure.[6]

Data indicate that between one third and one half of heart failure readmissions, particularly those

occurring within 90 days, are preventable.[7] Factors that contribute to preventable hospitalizations are inadequate patient and caregiver education, poor symptom control, insufficient social support, and inadequate discharge planning.[8] Successful management of people with CHF often includes long-term lifestyle adjustments by patients and families. Lifestyle adjustments focus on modifications in diet and activities, adherence to a complex medication regimen, and the need to monitor symptoms. The success of lifestyle adjustments depends not only on the person with CHF but also on his or her social support.[8]

In the early stages, patients with heart failure may have minimal physical limitations and symptoms. In later stages, ordinary daily activities become difficult, even at rest. Typically, the first key indicator of transition from early- to late-stage CHF is hospital admission. Unfortunately, both physical and psychosocial interventions typically become aggressive only during the late stages of heart failure, which is usually too late to significantly affect mortality. This delay of intervention is partly due to the fact that patients in early stages of CHF do not seek medical treatment until their condition requires hospitalization.

Because of the incidence and cost of CHF, many organizations have developed innovative specialized clinics managed by advance practice nurses to provide intensive outpatient ambulatory care for the CHF population. These clinics were formed to enhance the appropriate use of therapies and to bring about desired health maintenance and decreased rehospitalization. Such clinics typically provide primary care, counseling, education, and intensive follow-up. Numerous studies show that improved outcomes can be obtained through such nurse-managed clinics.[9,10]

Most CHF clinics operate within the outpatient setting, near a hospital. Criteria for admission to such clinics include but are not limited to: ejection fraction of 0.40 or less, New York Heart Association class II to IV as determined by a physician, readmission to the hospital 1 or more times in the past year, and a history of CHF. These clinics are managed by advanced practice nurses who are either CNSs or ANPs and who are the primary providers of care in consultation with the medical director of the clinic.

Patients attend the clinic from twice a week to once a month; they are reassessed at each visit and evaluated for continued therapies and education. Advanced practice nurses are excellent candidates to manage this complex population. Their interventions can result in a decrease in the readmission rate and an improved quality of life. Through their education, nurses learn to approach a patient holistically, integrating many aspects of care. This integration is key to the success of patient management and leads to positive outcomes. Readmission of CHF, along with resultant costs of hospitalization is decreased. Patient involvement in treatment demands the skill, expertise, and education of the nurse, not only in the initial assessment, but also in the ongoing coaching process. Advanced practice nurses today, and increasingly in the future, will become primary care providers for this important group of patients. Nurse-based models of care must be tested to determine their effectiveness and generalizability to recipients of healthcare.

Sophie's Story

Sophie, an 82-year-old African American woman, had New York Heart Association class III CHF. She was a widow, lived alone, and her sole financial support was Social Security. She had been hospitalized twice in the past 18 months for exacerbations of CHF. She had had a stroke, which had left her dependent on a cane for ambulation. She had hypertension, osteoporosis, atrial fibrillation, and diabetes mellitus type 2, which was controlled with diet; also, she took oral hypoglycemics. Sophie had a daughter who cared about her but was unable to provide any supplemental financial support.

Sophie took the following medications: an angiotensin-converting enzyme inhibitor, digoxin, potassium, fosinopril sodium, coumadin, and furosemide. Her medications cost her approximately $350 per month. Because she did not have any other insurance except Medicare, Sophie payed for medications herself. She did not drive but used public transportation to travel to the clinic and for other trips such as going to the grocery store and church. Sophie came to the CHF clinic every 2 weeks.

On the morning of one visit, Sophie was complaining of slight shortness of breath. She had gained 3 lb since her last visit. Her blood pressure was elevated to 176/94 mm Hg—it was normally around 130/80 mm Hg. Her pulse was 106 beats/min and irregular, and she stated that her shoes did not fit so she had to wear her slippers. Her

random blood glucose level was 13.6 mmol/L (245 mg/dL).

Upon questioning Sophie, the advanced practice nurse found that Sophie had not taken any of her medications for the past 3 days. Sophie was reluctant to answer questions because she did not want to "get into trouble" with the doctors. After further questioning, Sophie admitted that she had run out of medications 3 days earlier because she did not have the money to pay for them. She also was not eating well, again because of the lack of money, stating that she had 3 potatoes left to eat until the end of the month. On the first of the month, which was 3 days away, she would receive her Social Security check and be able to get her medications.

Table 1 Sophie's patient characteristics

Stability (decreasing)	Blood pressure and pulse, presence of pedal edema, dyspnea
Complexity (increasing)	2 or more body systems became entangled, cardiopulmonary systems were compromised, the patient was impacted by resource availability
Predictability (uncertain)	Decreased stability and complexity cause uncertainty in the patient's life
Resiliency (good potential)	Willingness and knowledge to comply with treatment and diet to regain stability
Vulnerability (increased)	Limited financial resources with little to no reserve make patient vulnerable to current situation
Participation in decision making and care (present)	No cognitive impairment for own decision making; daughter very supportive
Resource availability (decreased)	Limited financial resources with no assistance possible from family; available resources from community unknown.

Patient Characteristics

The Synergy Model describes the patient's characteristics (Table 1) that span the continuum of health and illness. Each characteristic exists on its own continuum. These characteristics assist the nurse to recognize how each patient is vulnerable. Recognizing and understanding these characteristics and how they can change with a patient's condition or situation helps in recognizing the essential nurse competencies that synergize to result in optimal patient outcomes.

Sophie's complexity as a patient was increasing because she lacked the financial resources to maintain her medications and a poor nutritional status placed the stability of her CHF and diabetes in jeopardy. The situation had to be resolved quickly, or Sophie would certainly have to be admitted to the hospital to reestablish the equilibrium she had achieved when she was taking her medications and eating a balanced diet.

Sophie had little resiliency because her blood sugar and cardiovascular status was easily affected by the loss of her medications and diet. She wanted to take her medications, and when she had them available, she always did what was needed to maintain herself. However, the lack of money and resources had placed her health in jeopardy. She had not told her daughter about her need for money because she knew her daughter had little financial reserve. Sophie was a proud woman who had always taken care of herself and somehow managed to get along without help since the death of her husband 6 years ago. She did not want charity so she had decided to make due until the first of the month. Unfortunately, her disease processes were worsening faster than she could afford to wait and the nurse needed to assist her in this crisis.

Nurse Competencies

The 8 nursing competencies exist along a continuum. Each competency is essential in providing care to Sophie, with some competencies emerging as a priority and others remaining to a lesser extent. In this case, the competencies that take priority are clinical judgment, clinical inquiry, collaboration, system thinking, and response to diversity. The advanced practice nurse had to use clinical judgment by synthesizing, interpreting, and making decisions on the assessment data of Sophie's weight gain, lower extremity edema, elevated blood pressure, and heart rate and her current medication regime (Table 2).

Clinical inquiry means observing, questioning, smelling, sensing intuitively, listening, and integrating findings into oneself for the benefit of the patient.[11] This competency occurs when questions to the patient are focused on compliance with patient-driven protocols for CHF and ensure depth of uncovering the patient's thinking, values, and beliefs regarding her condition.

The nurse had to collaborate with others to recruit resources for Sophie, for example by arranging for Meals on Wheels to deliver a balanced diet and getting financial resources to help cover medication costs at the end of the month.

Table 2 The competencies needed by Sophie's nurse

Clinical judgement	Analyze assessment data and make decisions based upon the needs of the client
Advocacy and moral agency	Support patient in her decisions to remain independent
Caring practices	Implement a process to ensure that resources are obtained for the patient
Facilitation of learning	Ensure that Sophie understand her disease process, medications and results of choices in relation to her health
Collaboration	Utilize resources in the community to meet the needs of the patient
Systems thinking	Anticipate possible strategies to ensure compliance with interventions
Response to diversity	Respect the clients values and beliefs
Clinical inquiry	Question the client to analyze which innovative strategies would be most successful with the client.

The nurse had to develop, integrate, apply, and evaluate a variety of strategies to meet the needs of the patient.[12] The strength of an ambulatory setting is that protocols are in place to do follow-up phone calls with patients to ensure continued progress and answer questions that can occur after the visit. Typically, an advanced practice nurse would use systems thinking to develop proactive strategies that could ensure improved utilization of services through the CHF clinic for Sophie. These strategies could include sample medications to be given during the last week of each month or to investigate the potential for Sophie to be involved in indigent programs sponsored by pharmaceutical companies.

Lastly, the nurses must respond to the diversity presented by each patient. In Sophie's situation, the nurse must respect the client's wishes to maintain her value of independence and pride in not accepting charity. Also, the nurse must support Sophie in her preference for food choices. A response to diversity means recognizing cultural or ethnic differences in the provision of care.[13] All the nurse competencies within the Synergy Model were important in the care of Sophie.

Outcomes

The advanced practice nurse in this situation utilized the competencies in the model to meet the needs of the patient. Sophie was connected with the local Meals on Wheels program, which agreed to provide 1 hot meal per day. In a follow-up phone call, Sophie reported that enough food was delivered every day so that she could actually save some of it to have with dinner. The CNS/ANP adjusted Sophie's medication regime, followed up with phone calls to her home on day 3 and 5 to ensure compliance and to answer questions. A decision was made by the patient to allow the advanced practice nurse to seek information regarding indigent programs for several of the drugs and to utilize drug samples at the end of each month until a program could be obtained for the client. The client also acknowledged her understanding of following a protocol to weigh herself daily and to call into the clinic for a weight gain of greater than 1 lb for possible fluid restrictions and drug adjustments.

Conclusion

The Synergy Model is applicable to a variety of settings. Specifically, the use of the Synergy Model in an ambulatory setting is an example of the flexibility of the model. The advanced practice nurse in an ambulatory clinic uses the competences described in the model to ensure optimal outcomes for the patient. The Synergy Model can be applied in numerous settings and can guide the practice of advanced practice nurses.

References

1. Curley MAQ. Patient-nurse synergy: optimizing patients' outcomes. *Am J Crit Care*. 1998;7:64-72.
2. UNC Charlotte Web site. Available at: http://www.uncc.edu/colleges/health/depfacstaff_frame.htm. Accessed October 2002.
3. Lenfent C. Cardiovascular research: an NIH perspective. *Cardiovasc Surg.* 1997;4:4-5.
4. Ho KKL, Anderson KM, Kannel WB, Grossman W, Levy D. Survival after the onset of congestive heart failure in Framingham Heart Study Subjects. *Circulation*. 1993;88:107-115.
5. Singh SN. CHF and arrhythmias: treatment modalities. *J Cardiovasc Eletrophysiol*. 1996;89:89-97.
6. Konstam M, Dracup K, Baker D, et al. *Heart Failure: Evaluation and Care of Patients With Left-Ventricular Systolic Dysfunction. Clinical Practice Guideline No.11.* Rockville, Md: Agency for Health Care Policy and Research; 1994. Publication No. 94-0612.
7. Shah NB, Der E, Ruggerio C, Heidenreich P, Massie B. Prevention of hospitalizations for heart failure with an interactive home monitoring program. *Am Heart J.* 1998;135:373-378.
8. Wehby D, Brenner PS. Perceived learning needs of patients with heart failure. *Heart Lung.* 1999;28:31-40.
9. McAlister FA, Keo KT, Taher M, et al. Insights into the contemporary epidemiology and outpatient management of congestive heart failure. *Am Heart J.* 1999;138:87-94.
10. Hendrick A. Cost-effective outpatient management of persons with heart failure. *Prog Cardiovasc Nurs.* 2001;16(2):50-56.
11. Hardin S, Hussey L. The Synergy Model in practice: clinical inquiry. *Crit Care Nurse.* April 2001;21:88-91.
12. Moloney-Harmon PA. The Synergy Model: contemporary practice of the clinical specialist. *Crit Care Nurse*. April 1999;19:101-104.
13. Doble RK, Curley MAQ, Hession-Labard E, Marino BL, Shaw SM. Using the Synergy Model to link nursing care to diagnosis relatied groups. *Crit Care Nurse.* June 2000;20:86-92.