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The Effect of Discharge Intervention Provided by an Advanced Practice Nurse on the Post-Discharge Self-Care Agency of Clients Admitted with Congestive Heart Failure

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The Effect of Discharge Intervention Provided by
an Advanced Practice Nurse on the Post-Discharge
Self-Care Agency of Clients Admitted with Congestive
Heart Failure

By

Theresa Dawson

A THESIS

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ABSTRACT

THE EFFECT OF DISCHARGE INTERVENTION PROVIDED BY AN ADVANCED PRACTICE NURSE ON THE POST-DISCHARGE SELF-CARE AGENCY OF CLIENTS ADMITTED WITH CONGESTIVE HEART FAILURE

by

Theresa Dawson

This study used a quasi-experimental design using a two-group comparison to evaluate the effects of advanced practice nurse interventions on client compliance to self-care regimens (diet, meds, and established appointments). The conceptual framework was based upon Dorothea Orem's Self-Care Model.

This study used the premise of Ashby's (1988) "Self-Care Outcome Measurement" tool to ascertain the frequency of the clients' performance of self-care activities. The frequency was measured using a 4-point summated rating scale. The study site was a 400 bed acute care hospital in Southcentral Michigan. The convenience sample of 10 adult clients with congestive heart failure were interviewed by phone one month following discharge.

Overall, the findings demonstrated good self-care abilities, however due to small sample size and unequal group distribution between intervention and comparison clients, conclusions regarding Type I or II congestive heart failure client ability for self-care post discharge as it relates directly to advanced practice nurse intervention

could not be made. No significant difference was found for medication compliance, self-care activities, or keeping scheduled appointments between the intervention and the comparison group.

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CHAPTER 1

Introduction

According to the American Hospital Association (1992), there were approximately 30 million annual emergency department visits in 1965 compared to 92 million annual visits experienced in 1990. As a result of longer life expectancies, many of these visits are related to the exacerbation of chronic diseases in clients who are now discharged within days of hospitalization. With decreased lengths of stay, overall readmission rates increased by approximately 10% between 1983 and 1986 (Epstein, Bogan, Dreyer, and Thorpe, 1991).

Readmission rates are high among clients with congestive heart failure. Congestive Heart failure is a prevalent problem with increasingly high rates of mortality and morbidity (Kegal, 1995). Frequent exacerbation of heart failure leads to multiple rehospitalizations and interferes with client's quality of life (Kegel, 1995). To prevent frequent rehospitalization, congestive heart failure requires close follow-up and assessment of the client for early signs and symptoms of relapse. This requires that clients be actively involved with their plan of care (Duncklee, 1984). Advanced practice nurses have the educational background to accurately and reliably assess client responses to treatment and implement mutual plans of care that lead to greater clinical stability in the

congestive heart failure client.

PROBLEM

Congestive heart failure is one of the most common indications for hospitalization of the elderly and is associated with a high incidence of early rehospitalization (Kegal, 1995). According to Braunwald and Grossman (1992), congestive heart failure is a syndrome "defined as the pathophysiological condition in which an abnormality of cardiac function is responsible for the failure of the heart to pump blood at a rate commensurate with the requirements of the metabolizing tissues and/or to be able to do so only from an elevated filling pressure"(p. 444). Braunwald and Grossman (1992) state that "early detection and elimination of precipitating causes of heart failure can prevent recurrence of exacerbation of illness and subsequent rehospitalization" (p. 445).

Communication, client education and post discharge follow-up is vital in reducing rehospitalization for congestive heart failure. Medication noncompliance, inadequate discharge planning and inadequate follow-up are factors cited as being preventable if appropriate intervention is implemented (Kegal, 1995). Shorter hospital stays must be supplemented by preparing clients and families for self-care at home to ensure therapeutic and economic benefits (Wong, Wong, Nolde, and Yabsley, 1990).

Advanced Practice Nurses with advanced knowledge of

cardiopulmonary pathophysiology and teaching/learning principles are in a strategic position to identify high risk clients, intervene with education and thus decrease morbidity and prevent rehospitalization (Kegal, 1995). In order to further support the role of the advanced practice nurse in provision of client education, it is important to demonstrate improved quality in client outcomes.

PURPOSE

The purpose of this study was to evaluate the effectiveness of advanced practice nursing intervention, in the form of education, on the self-care outcomes (compliance) of patients with congestive heart failure post discharge. It was thought that individualized education and support provided by an advanced practice nurse might increase the self-care agency of the client, as evidenced by compliance to prescribed medications, diet and follow-up appointments. This study built on previous work done by Jones, Jones and Katz (1988), as well as Nelson, VanCleve, Swartz, Kessen, and McCarthy (1991). The results of this study could be used to evaluate the concept that client outcome will improve as a result of advanced practice nurse intervention that includes utilization of individualized education, extensive psychosocial assessment and motivational tools that are cost effective and useful in today's health care environment.

CHAPTER II

Conceptual Framework and Review of Literature

The Dorothea Orem Self-Care Model provides a conceptual framework for this theoretical discussion. The model is based on the generalization that not all people are under nursing care, nor should they be. Human beings, however, could benefit from nursing when they have health-derived or health-related limitations for engaging in self-care activities (Orem, 1980).

Conceptual Framework

Dorothea Orem's self-care model, developed in the late 1950's, began to delineate nursing as a science and as an art. Previously, most nursing curricula were based on models of other disciplines, lacking specific reference to nursing knowledge. Orem successfully developed concepts for nursing education that centered around the idea that "not all people are under nursing care, nor should they be" (p.177), however "individuals could benefit from nursing when they experience self-care limitations" (as cited in Fawcett, 1985, p.177).

From this, Dorothea Orem (1980) further refined her general self-care concept to include three self-care requisites that are interrelated and identifiable. These requisites are universal, developmental and health-deviation and will be discussed in detail later in this chapter. The primary theme of Orem's concepts is that of the "ability of

individuals to function and maintain life, health and well-being by caring for themselves" Orem's theory (as cited in Meleis, 1985, p. 284). The self-care model describes how individuals have self-care needs for which they perform learned self-care behaviors (Chinn and Jacobs, 1983).

Client. Orem's (1978) conceptual model defined client as the individual who receives help and care from a nurse. She focused on the person's ability to perform self-care activities of maintaining life, health and well-being. Orem believed that self-care is undertaken to meet three types of self-care requisites: universal, developmental and health-deviation (Orem, 1980, p.41-51). Universal self-care requisites consist of maintenance of life processes such as intake of air, water and food, proper elimination and a balance between rest and activity. Developmental self-care requisites relate to human developmental processes that require adjustment at different times in life in order to maintain living conditions that support life. Health-deviation self-care requisites arise from disabilities or defects and include the ability to seek medical assistance when needed as well as carrying out prescribed measures in order to restore normal functioning.

For the purpose of this study, the client was defined as the person being discharged home from the hospital following admission for stage I or II congestive heart failure. According to clinical practice guidelines developed

by Agency for Health Care Policy and Research Publication #94-0612 (1994), Stage I congestive heart failure is defined as cardiac disease without resulting limitation of physical activity. Stage II congestive heart failure is described as cardiac disease that results in slight limitation of physical activity (fatigue, palpitations, dyspnea or anginal pain), with comfort at rest. Stage III congestive heart failure is described as marked limitation of physical activity, comfortable at rest, but less than ordinary activity causes fatigue, palpitation, dyspnea or anginal pain. In Stage IV congestive heart failure, there is an inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort increases.

Universal self-care requisites that may be difficult to achieve with congestive heart failure include sufficient air, food and water, adequate elimination processes, and a balance of activity/rest. Orem (1985) believes a developmental environment allows conditions that motivate the client to establish appropriate goals. Developmental self-care requisites that may be affected by environmental factors include educational deprivation regarding the disease process, poor health or disability and terminal illness. The primary health-deviation self-care requisite to be addressed in this study is the ability to effectively

carry out mutually determined therapeutic and rehabilitative measures that are directed at prevention of exacerbation of illness and readmission for Stage I or II congestive heart failure.

According to Bartle (1991), when individuals experience self-care deficits or the inability to carry out self-care activities, nurses can apply their acquired knowledge to care effectively for the well and sick. From this knowledge, they can design and produce nursing as it is needed to assist with self-care activities.

Environment. Orem (1980) broadly defined environment as physical and psychosocial conditions that externally surround a person. She believed that a person needs to be motivated developmentally in order to establish goals and adjust behavior to achieve expected results.

In the current study, the environment referred to all elements that might impact the goal attainment of self-care by the client during hospitalization and after discharge home. These might include financial resources, family and social support, transportation, cultural beliefs, or the inability to establish self-care goals.

Health. Orem (1980) defined health as a state of wholeness. Physical, psychologic, interpersonal and social aspects of health are viewed as inseparable. She referred to people as healthy or unhealthy, with health as a

dichotomy of wellness and illness. Orem (1980) stated that "when self-care is not maintained, illness, disease or death will occur"(pg. 6). She went on to further define a person's inability to care for self as a self-care deficit.

The health of clients with congestive heart failure in this study was viewed as their ability to understand self-care activities prior to discharge from the hospital, as well as to participate in self-care activities one week post-discharge. The self-care outcomes (compliance) were measured by the clients' ability to take medications as prescribed, to follow mutually established dietary and activity plans, and to keep scheduled appointments for follow-up of their disease process.

Nursing. Orem (1980) believed that nursing is derived from actions deliberately selected and performed by nurses to help human beings maintain or change conditions in themselves or their environments. Nurses focus on the client's continuing therapeutic care through support, education and action. Nursing can apply its practice not only in provision of universal and developmental health care needs, but more specifically through assistance in achieving health deviation self-care requisites. In order for the client to seek appropriate medical assistance, there needs to be an understanding of the illness/disease. In many instances the challenge for nursing lies with assisting clients in learning about the disease and how it affects

them. In order to encompass the entire disease process and return clients to their self-care activities, the education process must extend beyond the typical boundaries of traditional hospital discharge planning to include individualized planned outcomes and motivational techniques.

The current study was intended to examine the effectiveness of advanced nursing intervention through client education as it pertained to self-care outcomes (compliance). Orem (1980) indicates that nursing actions or systems are therapeutic and designed to supplement self-care requisites. These actions are:

1. Wholly compensatory: when the nurse is expected to compensate for the patient's inability to engage in self-care or when the patient needs continuous guidance in self-care.
2. Partially compensatory: when both nurse and patient engage in meeting self-care needs.
3. Supportive-educative system: the system that requires assistance in decision-making, behavior control, and acquisition of knowledge and skills (Orem, 1980, p.96-101).

The nursing action that was evaluated during this study was the supportive-educative system where individualized mutual goals were supported and fostered by the advanced practice nurse. The advanced practice nurse applied critical thinking, motivational and assessment skills to assist the

client in acquisition of knowledge. This was done using individualized education, decision-making through mutual goal setting and behavioral control through reinforcement of self-care activities (See Figure 1).

As clients experience untoward events or illness, it is often difficult to assess their self-care activities. Extensive nursing assessment and supportive-educative intervention are necessary in order to identify their self-care needs.

Theoretical Terms

The primary concepts to be utilized in the proposed study include "self-care agency", "advanced practice nursing intervention", and "compliance". The first concept is "self-care agency" (Orem, 1980). This term describes one's ability to deliberately take action to meet the demands of known needs for care. The second concept is that of "advanced practice nursing intervention." The advanced practice nurse is defined as a Master's prepared nurse (Clinical Nurse Specialist or Nurse Practitioner) who possesses exceptional knowledge and expertise of clinical practice." Advanced practice nursing intervention" is the process by which these advanced practice nurses utilize critical thinking and decision-making skills, motivational and assessment skills, and supportive-educative instruction both during hospitalization and post-discharge to assist the client in decision-making, behavior control, and acquisition

Advanced Practice Nurse -----> Self-Care Agency -----> Self-Care Outcomes
Discharge Intervention (CHF Client) (Compliance)

Use of:

- * critical thinking
- * advanced decision-making
- * mutual-goal setting

Increased ability to:

- * follow-through with dietary recommendations
- * follow-through with activity monitoring
- * follow-through with medication regimes
- * follow-through with daily weights
- * Keep established appointments

Figure 1. The Orem Self-Care Model applied to discharge intervention provided by an advanced practice nurse for congestive heart failure clients as it relates to self-care outcomes (compliance).

of knowledge.

The final concept is "compliance." According to the North American Nursing Diagnosis Association (1990), compliance relates to an individual's informed decision or ability to adhere to a therapeutic recommendation. The degree to which clients follow through with their treatment regimen is under the control of the client themselves. In the current study, compliance (self-care outcomes) was referred to as the client's ability to follow-through on prescribed medication regimes, adherence to recommended diet, monitor activity and disease, and keep established follow-up appointments originating during their hospitalization for congestive heart failure and continued post-discharge (See figure 1).

Review of Literature

Although there is a presumption that greater advanced practice nurse involvement in client education and post-discharge support may decrease the incidence of morbidity for clients with congestive heart failure, this is not supported in published research studies. In fact, very little research exists to demonstrate that advanced practice nurses' provision of care for clients who have heart failure is a feasible concept (Kegal, 1995). Venner and Seelbinder (1996) were able to demonstrate positive outcomes for patients with congestive heart failure such as decreased hospitalization and length of stay, increased knowledge of

disease management and increased functional capacity for selected outpatients utilizing the advanced practice nurse intervention of case management. More research is needed to determine the effect of the advanced practice nurse's provision of these services and the quality of client outcomes, as measured by compliance (self-care outcomes).

Client Education. Self-care agency can be promoted through education, empowerment, and communication that leads to an understanding of individual needs (Orem, 1980). Nurses who are prepared at an advanced level of nursing education have the basis to provide clients with a holistic assessment of their needs, detailed supportive-educative instruction concerning their disease, and active negotiation in decision-making processes. Preparation in teaching-learning principles assists in development of strategies for successful intervention. "The trend of fostering the patient as an active partner in health care can be accomplished through the teaching of communication skills as well as prevention, management and self-care skills" (DeMuth, 1989, p. 653). Providing client knowledge should improve self-care outcomes as it pertains to compliance with individualized treatment plans. With supportive-educative intervention and follow-up provided by an advanced practice nurse, congestive heart failure clients may be able to increase self-care agency.

The assumption that client education helps in

preventing readmission for congestive heart failure related to non-compliance was supported by Vinson, Rich, Sperry, Shah and McNamara (1990). The prospective study of 161 clients with documented congestive heart failure was conducted to determine whether there were preventable factors related to readmission for recurrent heart failure. Results suggested that 43% of readmissions were possibly or probably preventable. The factors cited as contributing to preventable readmission included noncompliance with medications, noncompliance with diet, and inadequate discharge planning or follow-up. Failure to seek medical attention promptly when symptoms recurred also contribute to early readmission. All of these factors can be addressed through identification of high risk clients shortly after admission, and development of a highly individualized education and discharge plan (supportive-educative intervention) that includes enhanced post-discharge follow-up.

Compliance. Over the years, compliance to prescribed regimens has attracted a great deal of attention (Kegal, 1995; Kontz, 1989; Ross, 1991; Ramsden, 1988). Historically, compliance was thought to be synonymous with "doing what the doctor ordered" implying a power struggle between the medical team and the client. What now is of significance in health care delivery is active and responsible participation of all members of society. "The

consumer movement in health care is responsible for many of the current trends that are emerging, many of which will significantly impact and be impacted by the concept of compliance" (Baer, 1986, p. 80). The public is demanding economic responsibility within the health care arena, as well as expressing the need for active participation in decision-making processes regarding treatment plans. Congestive heart failure is the nation's most rapidly growing cardiovascular disorder, contributing more than \$8 billion annually to the nation's health care bill (Abramowitz, 1995). It is conceivable that through advanced practice nurse intervention and active client participation, compliance (self-care outcomes) with recommended regimens will improve, therefore decreasing the need for high cost hospital stays, emergency department visits, and diagnostic testing.

According to Dracup and Meleis (1982) compliance is defined as the extent to which an individual chooses behaviors that coincide with a clinical prescription. Systems need to be established whereby emphasis is placed on increased compliance to treatment regimes following discharge. Client participation in planning and implementation of care can assist in accomplishing this goal.

In a randomized controlled trial in an urban university hospital, Nelson, VanCleve, Swartz, Kessen and McCarthy

(1990) were able to demonstrate 18% more compliance with instructions regarding follow up, and 15% less missed scheduled appointments in emergency department clients, using post-visit follow-up by an advanced practice nurse.

The study consisted of a random sample of parents of 190 children under the age of 8 years who sought care in the emergency department for acute illness. They were studied post-visit for compliance to treatment regimes. Parents in the experimental group were called by an advanced practice nurse who offered both individualized guidance regarding follow-up and further help if needed. The control group received "usual" follow-up advice in the emergency department at discharge. In the week following the emergency department visits, parents in the experimental group, as compared with parents in the control group, were more compliant with instructions regarding follow-up, 79% versus 61% respectively (Nelson, Van Cleve, Swartz, Kessen, and McCarthy, 1990). An important nursing implication derived from this study was the significance of advanced practice nursing intervention (supportive-educative) in improving follow-up care and compliance (self-care outcomes).

Similarly, in a randomized experimental design study performed by Cargill (1992), 70 patients were studied from an outpatient clinic serving the Veterans Administration. The purpose of the study was to provide information on

identification of patients at high risk for problems with medication non-compliance and their response to teaching interventions. The patients were randomized and placed into one of three groups: 1) no intervention, 2) standard 20 minute teaching session with medication instruction, and 3) same as group 2 with a follow-up telephone call 1-2 weeks after the visit by an advanced practice nurse who utilized interview and counseling skills to develop appropriate planning. Advanced practice nurses were used because they are academically prepared to use methods to critically assess clients' needs and follow up on mutually attained goals. The compliance score was recorded as a percentage of pills taken as prescribed, as well as a behavior score giving points for having medications on hand, knowledge of the medication and use of the medication. The patients in group 3 showed a significantly greater improvement in medication taking behavior as compared to the other groups ($F=0.3093$, $p=0.0097$). "These results are encouraging because the use of a telephone call is a fairly low-cost, problem-prevention method that can easily be retested" (Cargill,1992,p. 425).

Self-Care. Essentially, nursing has the responsibility (or opportunity) to enlist self-care abilities within the client. Dorothea Orem (1980) described this process as assisting clients with self-care agency or the ability to care for themselves. By providing the opportunity for

active participation regarding decision-making, clients can experience increased feelings of control over their health. If this is reinforced further through post-visit intervention by an advanced practice nurse, better compliance (self-care) with referral appointments and treatment regimens may result.

In a study conducted by Riesch (1988), the concept of self-care agency was tested with childbirth and coaching. Riesch utilized a pretest-posttest design that consisted of 100 women of 32-40 weeks gestation and their coaches. About 57% of the sample were women, the remainder were men, both were recruited from a university-sponsored nursing clinic. At the beginning of the first of seven childbirth preparation classes, the participants were asked to complete the data collection instrument referred to as the Exercise of Self-Care Agency (ESCA) scale. This scale has 43 items that evaluate the person's: a) attitude of responsibility for self, b) motivation to care for self, c) application of knowledge to self-care, d) the valuing of health prioritization, and e) high self-esteem. Each childbirth session was conducted in two hour segments by advanced prepared nurses that utilized strategies to promote active client roles in class. At the end of six sessions, the ESCA was administered again.

Riesch (1988) revealed that following participation in the childbirth preparation series, both the women (pretest

score=123, posttest score=129 out of 153 questions), and the coaches (pretest score=116, posttest score=122 out of 153 questions) reported a greater degree of self-care agency than before participation. The difference was found to be significant as both mothers and coaches scored much higher on their posttests than on their pretests ($F=5.28$, $p=.002$). A limitation of the study consisted of the lack of a control group of non-participants in childbirth education. This would help confirm or refute the assumption of increased self-care abilities demonstrated by the group educated by the advanced practice nurse.

Even though participants reported a greater degree of self-care agency following teaching, it was difficult to measure the influences of personal characteristics. It is thought that self-care agency is related to a clients' knowledge base, sense of self-worth, and motivation, and therefore it is difficult to measure in a single study. Potentially, self-care agency is influenced greatly by nursing intervention. Through correct identification of factors needed by the client to increase self-care agency, an advanced practice nurse can intervene to promote medication compliance, adequate follow-up and actions to seek prompt medical treatment (Kegal, 1995).

When considering self-care agency, all variables regarding enhancement of nursing intervention must be considered. Such things as environment, anxiety level,

sense of control and ability to understand, must all be addressed. If there is a lack of written or verbal ability to communicate between the advanced practice nurse and the client, self-care agency will be difficult to support, with subsequent decreases in compliance to medical regimes. The theory of self-care implies that deficits result due to the client's lack of knowledge about the event or resources available, the inability to perform specific activities or client malfunction due to illness itself. According to Orem's theory, (1980) there are five methods that nursing professionals can use to assist the client in regaining self-care: 1) acting or doing for another, 2) guiding another, 3) supporting another, 4) providing an environment that promotes self-development, and/or 5) teaching another. By assisting clients to achieve a better understanding of their disease and allowing active participation in decision making, nursing can increase self-care agency.

Research Question. The research question for this study asks, does the application of advanced practice nursing interventions increase self-care agency in the client with congestive heart failure as compared with traditional nursing interventions" The terms to be used in this study are operationally defined as follows:

1. Advanced practice nurse: Master's prepared nurse (Clinical Nurse Specialist or Nurse Practitioner) who possesses exceptional knowledge and expertise

of clinical practice.

2. Advanced practice nursing intervention:

Utilization of critical thinking and decision-making skills, motivational and assessment skills, and supportive-educative instruction to assist the client in decision-making, mutual goal setting, behavior control and acquisition of knowledge.

3. Compliance(self-care outcomes): Active

collaboration and engagement in behaviors that facilitate a mutually agreed upon treatment plan (Burckhardt, 1986).

4. Self-care agency: One's ability to deliberately take action to meet the demands of known needs for care.

5. Clients with congestive heart failure: The person being discharged from the hospital following admission for Stage I or Stage II congestive heart failure as outlined by the Agency for Health Care Policy and Research guidelines (1994).

5. Traditional intervention: Established education provided by the cardiac health team at the study hospital.

CHAPTER III

Methodology

The absence of literature addressing the effect of advanced practice nurses' interventions on self-care agency prompted this research. This study uses many of the concepts from the study by Kegall (1995) regarding post-discharge compliance of patients with congestive heart failure following home intervention techniques provided by advanced practice nurses. These concepts include ongoing and frequent patient education, assessment and monitoring for early signs and symptoms of congestive heart failure. The research question asks, does the application of advanced practice nursing interventions increase self-care agency (i.e.compliance) in the congestive heart failure client as compared with traditional nursing interventions?

Design

This study used a quasi-experimental design using a two-group comparison to determine the effects of advanced practice nursing interventions on client compliance to self-care regimens (diet, activity, medications, daily weights and established appointments). Descriptive statistics were used for demographic data and client problem solving behaviors. Subjects were assigned to either Group A or Group B. Baseline data regarding weight at discharge and medications prescribed were obtained from the clients chart. Groups A and B received traditional (established) inpatient

teaching for Stage I or II congestive heart failure while in the hospital setting. Traditional education is normally provided by the cardiac health team within the study hospital through utilization of a nurse or an exercise physiologist. The education includes heart anatomy review, medication dosages and side effects, as well as discussion of dietary and stress management. The traditional teaching that should occur for Group A and B uses educational pamphlets and video tapes and is provided when time is allowed in the inpatient setting. Group A then received additional inpatient education based on the knowledge of critical thinking, assessment and decision-making skills possessed by an advanced practice nurse. This individualized instruction addressed the following areas:

a) pathophysiology of congestive heart failure, b) medication effects and side effects, c) diet, d) activity/rest, e) methods of monitoring disease (daily weights), and f) follow-up appointments. Mutual goals were established through patient verbalization of long term goals and a plan developed with the assistance of the advanced practice nurse to meet that goal. An educational pamphlet was provided to the client. This was further enhanced by a follow-up telephone call made by the advanced practice nurse one week post-discharge to reinforce the instruction given in the hospital setting. Compliance (self-care outcome) data was collected from both groups by telephone interview one month

following the initial hospitalization.

The major advantage of utilizing an experimental design is control of extraneous variables (environment, communication, implementation of treatment) and manipulation of the independent variables, therefore strengthening internal validity. The disadvantage is that due to the control of these variables, generalizability to other populations is limited. Due to the inability to control these extraneous variables, a quasi-experimental design was chosen. Possible threats to internal validity include history, selection and mortality. At the study site, there were no scheduled changes in the traditional teaching process, however this was not guaranteed. The threat of selection includes client perceptions based on previous hospital experiences or educational material given to them. The "traditional" teaching materials utilized in the study hospital are standardized, therefore prior exposure to this material was an uncontrollable possibility. The compliance (self-care outcome) data were collected from both groups one month following discharge, therefore mortality (death, attrition) must also be seen as a possible threat to internal validity.

Threats to external validity include the Hawthorne effect and generalizability. Clients may have responded to the compliance (self-care outcome) assessment differently because they were aware of their participation in the study.

The findings apply only to the clients with Stage I or II congestive heart failure in this sample. The threats of experimenter effects and interrater reliability were controlled by having only one researcher asking the compliance assessment questions following established criteria.

Study Site and Subjects

The study site was a 400-bed acute care hospital in southcentral Michigan. The subjects were clients admitted to the hospital with the specific diagnosis of congestive heart failure (Stage I or II).

The criteria for selection included: a) clients with congestive heart failure (Stages I or II), b) able to understand the English language, c) were to be discharged home versus other placement, d) could be contacted by telephone, and e) agreed to participate in the study. Exclusion criteria included: a) referral to a home health agency for follow-up care upon discharge, b) discharge to an extended care facility, or c) patient refusal to participate in the study. Subjects' rights were protected through approval of this study by the Grand Valley State University Human Research Review Committee. Written patient consent for inclusion in the study was obtained by the investigator. Permission to conduct the study was obtained from the Vice President for Patient Care Services and the

Ethics\Institutional Review Board in the selected test site (Appendix A).

Fatigue was a potential risk for the client during the data collection procedure of telephone interviewing. Therefore, the interview was less than 20 minutes in length. The researcher was also sensitive to both verbal cues and report of fatigue, with subsequent cessation of the interview at that time.

Description of the Sample

A convenience sample consisted of 12 subjects discharged June 1, 1997 through February 28, 1998 following admission for Stage I or II congestive heart failure. Every effort was made to recruit enough subjects to get a sample of 30 intervention and 30 comparison clients to total 60. However, after 8 months of data collection, a minimal number of clients met the criteria for inclusion. Most clients with congestive heart failure who remained in the inpatient setting for longer than twenty-four hours were in Stage III or IV of their disease. Because the clients with Stage I and II were admitted and discharged in a very short period of time, the researcher had difficulty with initial contact and educational follow-up before they were released. Two of the twelve subjects were later excluded due to arrangements made for post-discharge placement in a long term care facility. The remaining 10 subjects consisted of 5 males and 5 females (Table 1). Subjects ranged in age from 42 to

85 with a mean age of 70.6 years and a standard deviation of 11.88 years. The median age was 73.0 years. Clients who meet criteria for inclusion and consented to participation in the study were assigned to either Group A or Group B. The sample was further described by gender, ethnicity, and pre-existing cardiovascular disease (Table 1).

The groups were unevenly distributed into interventional (Group A) and control (Group B) due to the lack of subjects available for study that met criteria during this 8 month period. Eighty percent were in Group A, while the remaining 20 % were in Group B. The lack of a significant sample and unequal distribution into study groups make it difficult to analyze findings. To extend the study longer would have threatened the internal validity. The major limitation regarding subject assignment was related to early discharge of patients with Stage I or II congestive heart failure. Most potential candidates were released prior to the researcher contact.

Sixty percent (60%) of the participants were high school graduates. Twenty percent had completed a college degree. The subjects education level is distributed as shown in Table 2.

Instrument

The instrument used was "Self-Care Outcome Measurement" (Appendix B) based on work done by Ashby (1988). Consent was obtained from Ashby for use of portions of the tool in

Table 1

Gender, Ethnicity & Pre-existing Disease of Subjects

Characteristics	frequency	%
<u>Gender</u>		
male	5	50
female	5	50
<u>Ethnicity</u>		
Afro-American	1	10
Caucasian	8	80
Hispanic	0	0
Other	1	10
<u>Pre-existing</u>		
<u>cardiovascular dx.</u>		
Diabetes	0	0
Hypertension	5	50
Prior CHF	6	60
Prior MI	4	40

Table 2

Educational Levels of Subjects

Educational level	frequency	%
less than 9th grade	1	10
high school graduate	6	60
1 year trade school	1	10
2 year associate degree	1	10
4 year college degree	1	10
	10	100

this study (Appendix C). Ashby used information from the Tucker et. al. (1984) study to develop the instrument which consists of a maximum of 12 questions. Categories on the tool include: a) medications, b) diet, c) rest, d) activity, e) methods of monitoring disease, f) follow-up appointments.

Descriptive information collected included: a) illness concerns requiring ER or physician office follow-up, and b) readmissions. This was useful for the researcher in determining the outcome advanced practice nurses have on readmission rates. The remaining questions asked how often the client performed particular self-care activities. The frequency was measured using a 4-point summated rating scale ranging from never (0), 25% or some of the time(1), 75% or most of the time(2) or daily (3). To promote consistency among interviews, an "Initial Interview Guide" was developed (Appendix D). The Self-Care Outcome Measurement instrument reflected the content areas for teaching utilized by Ashby (1988) as recommended by Tucker et al.(1984). These included medications, diet, activity levels, monitoring daily weights and keeping appointments. There had been no reliability or validity testing done on the tool per personal communication Betty Ashby, RN Ph.D, author of the tool (1988). Instrument reliability coefficient was established and tested during data analysis. Reliability coefficients on 11 items regarding self-care abilities utilizing Cronbach's Alpha was .3586. These results are below what would be routinely

acceptable. Factors effecting the reliability of the instrument are the low number of items on the instrument itself, and the small number of subjects in the study. The instrument needs a larger sample for true reliability testing.

Procedure

Steps to recruit subjects were taken after obtaining permission from Grand Valley State University Human Research Review Committee and after receiving permission from the study site. The subjects were identified on a daily basis from a computer generated list of admissions based on Diagnostic Related Group(DRG) #127 (congestive heart failure). The potential subjects who met the criteria were approached by the researcher in the hospital setting prior to discharge. A verbal explanation of the study was completed (Appendix E). If the client met the criteria and agreed to participate, he or she was asked by the researcher to read and sign two copies of the consent form (see Appendix F). One copy was kept by the researcher, the other was given to the client. Subjects were informed that their participation was strictly voluntary and that they could withdraw at anytime without penalty.

In order to collect demographic data and provide convenient assignment into Group A or Group B, the clients who were willing to participate were met by an advanced practice nurse who performed an initial interview. This

interview was conducted using the "Initial Interview Guide". The client's medical records were used for verification of the data. At the time of the initial interview, the advanced practice nurse then placed the client into either Group A or Group B for study. This was done by assigning the first three clients admitted to the hospital in each week during the collection timeframe to Group A until 8 clients were obtained. The remaining clients admitted in each week with congestive heart failure were assigned to Group B. At the conclusion of the interview, arrangements were made for the follow-up telephone reinforcement of individual instruction for those who are assigned to Group A.

Subjects in both groups received traditional inpatient education for Stage I or II congestive heart failure while in the hospital. Subjects in Group A were then individually instructed by an advanced practice nurse prior to discharge following an established Discharge Intervention Guideline (Appendix G). This was used in order to provide consistency in format. Individualization of interventions were determined by the advanced practice nurse based on assessment of the clients knowledge, and mutual goals established and documented. The subjects from Group A were then contacted by the advanced practice nurse via phone on the 7th day after discharge in order to reinforce the discharge intervention information. Any concerns or

questions that were raised were addressed at that time.

Both Group A and Group B subjects were contacted by phone one month post-discharge by the researcher. The telephone interviews were conducted utilizing the Self-Care Outcome Measurement. The responses were coded and recorded on the interview tool. After the telephone interview, the researcher removed all identifying client information from the Self-Care Outcome Measurement.

CHAPTER IV

Results

This study used a quasi-experimental design using a two-group comparison to determine the effects of advanced practice nursing interventions on client compliance to self-care regimens. Groups A and B were to receive traditional education for congestive heart failure by various hospital personnel during their inpatient stay. Group A then received an intervention consisting of individual instruction regarding congestive heart failure followed by a phone call by the advanced practice nurse one week after discharge. The variable under study was the self-care (compliance) outcomes post-discharge of clients with congestive heart failure.

A sample of 12 subjects was obtained during an 8 month period. Two of these subjects were disqualified due to referrals to extended care facilities following discharge. Therefore, the results are based on the data analysis of 10 subjects, 8 subjects receiving intervention (Group A) and 2 subjects who did not (Group B).

Description of the Study Variables

The study instrument (see Appendix B) contained questions on categories regarding self-care(compliance) which will be reported in this section. The focus of these 12 questions were on categories of self-care(compliance) activities needed to actually improve self-care outcomes.

The statistical procedures used for this study were chi-square test, t-test and descriptive statistics. The chi-square test is used to "test the significance of different proportions" (Polit and Hungler, 1991, pg. 446). It compares two sets of frequencies, those observed and those expected under the null hypothesis of no relationship between groups. Medication compliant versus non-compliant behavior was analyzed using chi-square with Yates continuity correction testing.

The t-test was used with the summed compliance scores for general self-care behaviors. This test determines whether there is a significant difference between the means of Group A and the means of Group B regarding compliance (self-care) behaviors such as follow through on established dietary and activity plans, daily weights and keeping established appointments.

Descriptive statistics were used to describe problems that developed post-discharge that required calls to physicians, treatments in physicians offices, or re-admissions to the hospital. Descriptive statistics also described demographic and medical data from the population as mentioned earlier.

The clients were first asked about the number of medications they were prescribed and how often they took them according to prescribed frequencies. These results were analyzed utilizing a chi-square with Yates continuity

correction due to low sample size. The frequency of compliant versus non-compliant behavior was compared between the intervention and the comparison groups dichotomizing to the percent of medications correct (See Table 3). Continuity correction utilizing these frequencies demonstrated a value of .03; $p=.86$. The results were not impressive regarding a difference between groups. Actually, the intervention group contained the only 3 clients who were non-compliant with their medications for various reasons.

Table 3

Percentage of Medications Correct by Group

	compliant		noncompliant	
	#	%	#	%
Intervention Group A	5	62.5	3	37.5
Comparison Group B	2	100.0	0	00.0

The next 11 questions related to how often the client performed particular self-care (compliance) activities and was measured utilized a 4 point summated rating scale. The scale ranged from no compliance (0) to excellent compliance (3) with a total possible score ranging from 0-33. Table 4 includes responses from the 11 self-care questions

identifying frequency and percentages based on intervention versus comparison groups.

Analysis of the 11 self-care (compliance) questions revealed a varied response in all categories. There were insignificant differences between the intervention and comparison groups. The intervention group was more consistent in following diet, doing daily weights and checking for swelling in the ankles, however the statistical results are questionable due to the small sample size.

The t-test was used to compare the independent samples of group regarding self-care (compliance) behaviors. The results demonstrated the intervention group to have a mean of 25.375, the comparison group a mean of 22.500. The t-test for equality of means were $t=.93$; $df=8$; and $p=.38$.

To capture the ability to carry out other self-care (compliance) choices, clients were asked if they had problems with their congestive heart failure, did they call the physician, go to the office or go to the ER. Twenty-five percent of the intervention group went to the office, 12.5% went to the ER, the remaining 62.5% had no problems.

The comparison group had no clients experiencing problems with congestive heart failure after discharge. One client from the intervention group was directed by the physician to report to the ER due to physical problems. This same client was admitted to the hospital at the time of the ER evaluation, with a length of stay of 20 days and

Table 4

Self-Care (Compliance) Behaviors for Intervention/Comparison Groups
(n=10)

Categories of Comparison Self-Care	Intervention			
	Freq.	%	Freq.	%
Diet				
-never	0	0	0	0
-25% of time	0	0	0	0
-75% of time	2	25	2	100
-All the time	6	75	0	0
Rest				
-never	0	0	0	0
-some of time	2	25	0	0
-most of time	5	62.5	2	100
-at any time	1	12.5	0	0
Increased Activity				
-never	1	12.5	0	0
-1or2 times	1	12.5	2	100
-3or4 times	2	25	0	0
-Daily	4	50	0	0
Pulse				
-never	4	50	1	50
-1or2	2	25	0	0
-3or4	0	0	1	50
-Daily	2	25	0	0
Weight				
-never	1	12.5	0	0
-1or2	0	0	2	100
-3or4	1	12.5	0	0
-Daily	6	75	0	0
Check for edema				
-never	1	12.5	0	0
-1or2	0	0	1	50
-3or4	0	0	1	50
-Daily	7	87.5	0	0

(Table 4 Cont.)

Categories of Comparison Self-Care	Intervention			
	Freq.	%	Freq.	%
Short of Breath				
-never	4	50	1	50
-1or2	4	50	1	50
-3or4	0	0	0	0
Appt. Kept				
-never	0	0	0	0
-some of time	0	0	0	0
-most of time	1	12.5	1	50
-all the time	7	87.5	1	50
Any problems				
-yes	3	37.5	0	0
-no	5	62.5	2	100
Treated in ER				
-yes	1	12.5	0	0
-no	7	87.5	2	100
Admitted for CHF				
-yes	1	12.5	0	0
-no	7	87.5	2	100

multiple complication. This client represented 12.5% of the intervention group, and therefore effected the results due to her outlier status.

Summary of Findings

Overall, subjects in both groups reflected a positive ability to perform self-care (compliance) activities after discharge with congestive heart failure. The outlier status of one client who experienced multiple problems after discharge with both congestive heart failure and other chronic illnesses may have affected the data regarding the intervention group. In retrospect, due to her multiple physical problems, she should have been excluded from the study. No significant difference was found between the intervention group and the comparison group on the mean compliance scores. To relate these findings to the research questions, the advanced practice nurse intervention did not have an effect on increasing the self-care (compliance) scores to a level significantly greater than the comparison group.

The percentage of medication compliance analyzed by chi-square also did not support the research question of increasing compliance of medication behavior in the intervention group. Small sample size and unequal study group distribution greatly effected the statistical results making them questionable.

CHAPTER V

Discussion/Implications

Limited research addressing the effects of advanced practice nurse intervention on self-care (compliance) after discharge prompted this study. This study uses many of the concepts from Kegall's(1995) study on post-discharge compliance of patients with congestive heart failure following home intervention techniques provided by advanced practice nurses. Using Ashby's(1988) instrument "Self-Care Outcome Measurement", this study evaluated clients' abilities to perform self-care(compliance) activities post-discharge following admission for congestive heart failure.

Discussion

The number of subjects for each category (intervention/comparison) were minimal, therefore making it very difficult to come to conclusions. The intervention and comparison groups both demonstrated good self-care (compliance) behavior overall. As demonstrated by the t-test, there was no significant difference found between groups. Incidentally it was found through chart review that none of the subjects had received traditional education during their hospitalization. This was quite surprising since this was expected to occur on all admissions for congestive heart failure. The subjects in the intervention group were the only patients in the study given formal education while hospitalized. Surprisingly, during one

month follow-up after discharge, there was very good knowledge of self-care (compliance) behaviors demonstrated by both the intervention and comparison groups although the group sizes were inadequate to summate findings.

Medication compliance, analyzed with chi-square, demonstrated no significant difference as well. Self-care and medication knowledge could be influenced by many factors such as educational level, previous admission or previous congestive heart failure education. All clients in the intervention group were very appreciative of the extra time spent to make phone contact with them post-discharge. With decreasing length of stays in the inpatient settings, post-discharge contact seems to reflect a positive communication tool in the educational process.

Relationship of Findings to the Orem Self-Care Model

The Orem Self-Care model provided a conceptual framework to study the self-care (compliance) abilities of congestive heart failure clients post-discharge (1980). The client, as described by Orem, is the individual who receives care from a nurse. The universal health care requisite examined specifically was the client's ability to find a balance between rest and activity. Balancing rest with activity conserves important energy stores. If the client finds this balance, self-care is improved. Developmental self-care requisites consisted of maintaining living conditions that support life, through diet adjustment,

weight and edema monitoring. This monitoring can allow clients to better control their disease and take proper steps in the event untoward findings are noticed. Health-deviation self-care requisites focused on medication compliance to prescribed regimes and appropriate follow-up with the physician if self-care monitoring warranted.

The findings in this study show that most clients were able to understand and follow through on self-care (compliance) behaviors. These results were not significant enough to draw a conclusion whether these self-care (compliance) behaviors were improved through advanced nursing intervention or if it was related to other variables such as educational levels of the client. It is also not known if the tool used actually measured what it should regarding self-care.

While many factors influence the appropriate implementation of client education, the belief remains that clients have a right to learn about their health care needs and nurses are the appropriate teachers (Orem, 1980). The challenge that now presents itself is the difficult task of balancing a shortened hospital stay with the learning needs of the client.

Relationship of Findings to Research

Even though no significant conclusions were able to be determined from this study, the findings suggest, from the positive client responses, that improvements could be made

in the way that advanced practice nurses approach the client with congestive heart failure. Due to decreased length of stays and more complex self-care skills needed, education of clients needs to take on a different context. With all participants in this study being discharged without receiving any traditional education prior to going home as had been expected, the basics for teaching self-care (compliance) abilities have been missed by those not in the intervention group. A study performed by Nancy Brass-Mynderse found that in a group of patients with congestive heart failure "self-care was missing due to a lack of educational process. The nurses in the hospital did not have time to educate the patient, and the patient might not see their cardiologist for 1-3 months" (as cited in Macready, 1997). Observation revealed that the nurses in the study setting seemed to do a thorough job of meeting the clients immediate physical needs, however patient educational tasks appeared to be of less priority. This assumption would require further study however.

As health care of chronic illnesses moves to the outpatient setting, advanced practice nurses need to shift their client educational focus in that direction as well. Kegal(1995) suggested that services provided by the advanced practice nurse could extend beyond the hospital to the home setting with continued contact on a regular basis. A study by Wong, Wong, Wolde and Yabsley (1990) found that adequate

patient education linked with follow-up visits, yields low morbidity rates, supporting the need to extend education intervention beyond the walls of the hospital.

Limitations

The major limitation of this research was the inadequate sample size making it impossible to draw conclusions. The study period was extended to 8 months in hopes an adequate sample could be obtained, however the inclusion criteria of studying Stage I or II congestive heart failure limited the number of inpatients that met this criteria. Most clients with Stage I or II congestive heart failure are treated in the ER and discharged home. The clients who were admitted had very short lengths of stay making it difficult for the researcher to make contact. After 8 months, it was felt to extend the study would further threaten the internal validity of the study.

The other major limitation was the unequal sample distribution between the intervention and comparison groups. In an attempt to obtain a sample of 30 intervention subjects, the first 10 subjects were placed in the intervention group. Two of these subjects later were disqualified due to long term care facility placement. It was thought in order to make comparisons, the remaining subjects would be placed in the comparison group. After the predetermined study conclusion date was completed, there were only two clients in this group. Between the small

sample and the unequal numbers, no conclusions could be made from this study about the effects of advanced practice nurse intervention on self-care abilities.

The inability to establish reliability of the "Self-Care Outcome Measurement" for this study sample is also considered a limitation. This relates back to the problems with sample size and limited questions on the tool.

A limitation by design was that post-discharge medication and self-care data was obtained by self-report methods. The subjective nature of this data collection makes it difficult to assure accuracy of the data collected.

One final limitation in this study consisted of the fact the study is based on a convenience sample and, therefore, the results cannot be generalized to other settings or populations. Findings apply only to the congestive heart failure clients of this study.

Recommendations

Based on the conclusions of this study, the following recommendations are proposed. The findings will be reported to the study hospital Vice President of Patient Care Services as requested. Even though the findings were inconclusive, information regarding patient education needs may be helpful. Changes in the length of hospitalization require the alternatives to congestive heart failure patient education be examined. The role of the current advanced practice nurses within this institution may need to be

focused more on individualized patient education and follow-up into the community rather than relying on traditional means of patient education by the staff nurse. Phone contact post-discharge could be utilized as a tool to keep in touch with the community. During this study, a patient expressed that "oh it is nice to know someone cares". Positive communication with the patient after discharge enhances self-esteem and trust. It must also be considered in the cost conscious environment of health care today, advanced practice nurse-operated clinics affiliated with hospitals can reduce morbidity and costs, and increase accessibility to care for the clients.

Recommendations for further research consist of possible duplication of this study from an advanced practice nurse-operated outpatient clinic prospective. It could include the element of patient satisfaction as well. Very little research exists to demonstrate education provided by advanced practice nurses can increase self-care (compliance) abilities or satisfaction. There is some research available that supports the advanced practice nurse role in community health, however clarification of the role in tertiary care must ensue. When rehospitalization, morbidity and costs of congestive heart failure may be reduced through new health care delivery systems (i.e. chronic illness outpatient clinics, etc.), research that replicates this new model must be pursued.

Controlling the information given to the patient did not seem to be an issue with this study. However, if the sample were larger, more information should be obtained during the intake interview to determine the patient educational level regarding their disease prior to development of an educational plan. The expectation that traditional education would be presented prior to the researcher coming into contact with the patient was found not to be true, therefore assumptions could not be made regarding previous knowledge.

Another study for the future might be looking at the effects of home health care as it relates to Stage III congestive heart failure. Many of these patients are sent home today with vasoactive medications requiring close monitoring. Home health has taken on the majority of the responsibility of caring for this population. Research related to Stage III congestive heart failure patient outcomes with home health assistance would be beneficial.

Further studies looking at readmission rates and cost per patient day for congestive heart failure as it relates to length of stay would be very helpful when considering that 7% of clients with congestive heart failure are readmitted. This could be examined as a part of the research suggested previously or as a separate entity.

The "Self-Care Outcome Measurement" tool could be used in future research with a greater sample size. This would

help validate it's reliability for future use. It is difficult to recommend any changes to the tool without proper sample size. Future reliability testing is needed to establish internal consistency.

Implications for Nursing

Currently, healthcare institutions outcomes are measured as the indicators of success. Hospital administration needs to evaluate the patient educational process in an outcomes format. Positive patient outcomes include decreased length of stay, decreased readmissions, increased knowledge of disease and increased functional capacity or self-care abilities (Venner, Seelbinder, 1996). Kegal (1995) proposes that there is a correlation between the advanced practice nurse provision of care and quality of patient outcomes. As health-care is focused on the continuum of care, patient educational efforts should be started in the inpatient setting and extend to the community. Clinics for chronic illness may be a venture that proves to do well in the future. Administrators may be wise to start reaching into the community and utilizing the advanced practice nurse's skills to meet client goals.

Implication for educational institutions for nursing are to possibly focus on placing their Masters degree students into the outpatient areas during early stages of their clinical rotation. To monitor and educate patients through the continuum of care starting with the inpatient

setting through home care will assist them in seeing the result of their interventions. Comfort on the part of the nursing student in educating patient with chronic disease must be achieved in order to be successful. Furthermore, advanced practice nurses need to be able to develop, facilitate and promote the role of all nurses as expert patient educators.

Implications for research consist of the need for future studies that look at advanced practice nurse involvement and decreasing incidence of morbidity for patients with congestive heart failure. Research that exists regarding advanced practice nurses' effectiveness in decreasing rehospitalization needs replication in order to extend its hypothesis to other patient populations. As clinical, quality improvement, and financial data become integrated into outcome management, further research specific to these areas will need to be addressed.

In conclusion, this study has added to the body of literature on advanced practice nurse intervention and its effects on self-care (compliance) abilities. It is hoped that even though no specific conclusions were derived, that the data will provide interest for future research in utilizing the advanced practice nurse for chronic illness management.

APPENDICES

APPENDIX A
BATTLE CREEK HEALTH SYSTEM

April 9, 1997

Ms. Theresa Dawson
560 N. Marshall Avenue
Marshall, Michigan 49068

Dear Ms. Dawson:

This letter is to inform you Battle Creek Health System has granted approval for you to perform your study on Thesis 694 through Grand Valley State University, contingent upon approval by our Ethics Committee/Institutional Review Board.

Sincerely,


Samuel M. McMahon, M.D.
Vice President
of Medical Affairs


Donald J. Stinar, M.D.
Chairman,
Ethics Committee and
Institutional Review Board


Elizabeth Henry, R.N., M.N.
Vice President
of Operations/CNE

ID # _____

Group A=1

Group B=2

(Circle appropriate assignment)

APPENDIX B

Self-Care Outcome Measurement

1. What medications are you taking?

a. What dosage?

b. How often?

c. Are you taking it as your doctor prescribed?

(Compliance will be described as 80% of the time, Yes=1 No=0)

Medication Dosage How Often Taken Rx Frequency Compliance

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Total Meds = _____

Total Correct = _____

2. Since you were discharged from the hospital, how often have you been able to follow your diet?

___ 0 = Never	___ 2 = 75% of the time
___ 1 = 25% of the time	___ 3 = All of the time

3. Since you were discharged from the hospital, how often do you rest when you feel tired?

___ 0 = Never	___ 2 = Most of the time
___ 1 = Some of the time	___ 3 = Any time

4. Since you were discharged from the hospital, how often have you increased your participation in activity?

___ 0 = Never	___ 2 = 3 to 4 times a week
___ 1 = 1 to 2 times a week	___ 3 = Daily

5. Since you were discharged from the hospital, how often do you take your own pulse?

___ 0 = Never   ___ 2 = 3 to 4 times a week
___ 1 = 1 to 2 times a week   ___ 3 = Daily

6. Since you were discharged from the hospital, how often do you weigh yourself?

___ 0 = Never   ___ 2 = 3 to 4 times a week
___ 1 = 1 to 2 times a week   ___ 3 = Daily

7. Since you were discharged from the hospital, how often do you check for swelling in your feet?

___ 0 = Never   ___ 2 = 3 to 4 times a week
___ 1 = 1 to 2 times a week   ___ 3 = Daily

8. Since you were discharged from the hospital, how often do you notice that you are short of breath?

___ 0 = Never   ___ 2 = 3 to 4 times a week
___ 1 = 1 to 2 times a week   ___ 3 = Daily

9. Since you were discharged from the hospital, how often have your kept your appointment with the doctor?

___ 0 = Never

___ 2 = Most of the time

___ 1 = Some of the time

___ 3 = All of the time

10. Since you were discharged from the hospital, have you had any problems? Yes = 1, No = 2. If you did, have you called the physician? 1=Yes, gone to the office? 2=Yes, gone to ER? 3=Yes.

How many times? _____

11. Since you were discharged from the hospital, have you been treated for your heart failure in the emergency room? Yes ___ =0, No ___=3 How many times? _____ Did you chose this route of treatment or were you directed by your physician? _____.

12. Have you been admitted to the hospital for congestive heart failure since _____ when I visited you there? (Yes=0, No=3) If Yes,

a. How many times? _____

b. To which hospital were you admitted? _____

c. How many days were you in the hospital? (List days for each admission)



APPENDIX C

Southside Regional Medical Center
School of Nursing
801 South Adams Street.
Petersburg, Virginia 23803-5133

(804) 862-5800
FAX (804) 732-3360

May 13, 1996

Theresa Dawson, R.N., B.S.N.
4651 Huron Trail
Battle Creek, MI 49015

Dear Theresa:

You have my permission to use the "Compliance Assessment Guide" from my dissertation "Home Teaching: Effect on Compliance, Hospital Readmissions and Days of Rehospitalization for Patients with Chronic Congestive Heart Failure". You also have my permission to alter any part of it for adaptation to your thesis study.

The guide was based on the content taught during the home visits which was developed from identified references. Assessment of rehospitalization was done to determine the support of my readmission hypotheses. I have no reliability or validity data.

I wish you much success in conducting your research. Please share your results with me.

Yours Truly,

[Redacted Signature]
Betty S. Ashby Hrouda, R.N., Ph.D.
Professor of Nursing

BSH/cr

CELEBRATING A CENTURY OF SERVICE & EDUCATION TO THE COMMUNITY

ID# _____

Date _____

Group A=1

Group B=2

APPENDIX D

Initial Interview Guide

_____, I am _____, a Registered Nurse with Battle Creek Health System. I understand you are willing to participate in our study of patients with congestive heart failure. Would it be convenient for you to talk with me for about 15 minutes now? (If no, say) When would it be convenient for me to come back? (If yes, proceed with questions below, circling appropriate responses).

Name:

Ethnicity:

Address:

Afro-American=1

Room #:

Caucsion=2

Telephone #:

Hispanic=3

Alternate #:

Multicultural=4

Age: _____

Married=1 Never Married=2

Widowed=3 Divorced=4

Educational level: ____yrs.

Gender: Male=1 Female=2

Medical Diagnosis: _____

	Y=1	N=2
Pre-existing CV disease: HTN	_____	_____
DM	_____	_____
Prior MI	_____	_____
Prior CHF	_____	_____

Other Chronic illnesses: _____

Thank you for answering all of my questions. I will be returning during your hospital stay to talk to you about your disease and help you understand how to control it. Do you have any questions?

Tentative phone follow-up date: _____

Preferred time for call: _____

APPENDIX E

SCRIPT FOR OBTAINING STUDY CONSENT

Hello (client's name)_____

My name is (researcher's name)_____. I am a graduate student in the Grand Valley State masters program. I have a special interest in the discharge education of patients with congestive heart failure. As part of my graduate work, I am conducting a study that will help determine what effect education provided by an advanced practice nurse has on the ability of a patient to take care of oneself at home. Battle Creek Health System has given me permission to contact each patient with congestive heart failure admitted to the institution for participation in this study.

Your participation is voluntary and would involve receiving education regarding your disease during your hospitalization and one or two telephone calls after discharge. During the telephone call, I will ask questions regarding your understanding of medications, diet, activity, disease monitoring, and scheduled appointments. This call will take less than 20 minutes of your time. The information provided would be valuable for nurses to assist future patients in being able to care for themselves at home.

Your honest opinions are important; therefore, your responses will remain confidential. Reports of this study will be reported in group fashion and will not identify you in any way. You will be free to withdraw from this study at any time without penalty.

Would you be willing to participate in this study by agreeing to a telephone interview after discharge?

If No - Thank you for your time and consideration.

If Yes - Thank you. I will need to obtain written permission from you and your physician for your participation. Please review this consent form. Do you have any questions? (Answer questions and obtain signature).

I will need a phone number where you can be reached following discharge. Also a second contact number would be helpful in case your plans change following discharge. (Phone numbers to be recorded on initial interview guide)

What time of day would you prefer to be called? Is there a second time that would also be convenient for you? (Record times on initial interview guide).

A piece of information that will help to analyze these data is education. What is the highest level of education that you have completed? (Educational level to be recorded on initial interview guide).

Thank you again for your willingness to participate.

APPENDIX F

CONSENT FORM

I understand that Theresa Dawson, RN is conducting a study on the effect of discharge education. The purpose of the study is to evaluate the effect education provided by an advanced practice nurse has on the ability of a patient with congestive heart failure to take care of oneself at home. Education may or may not be reinforced after discharge by phone contact with the advanced practice nurse. I understand that one month after discharge, I will be contacted by the researcher via telephone and asked questions regarding my ability to care for myself at home. The information provided will be valuable for nurses to assist future patients in a smooth transition to their homes. There will be no monetary benefits to me.

I further understand that information I provide (from interview and hospital record) will remain confidential. I have been assured that only group results will be reported and those reports will not identify me in any way.

I understand that I am free to withdraw from the study at any time by informing the researcher. Withdrawal from the study will in no way affect my discharge plans or future care.

I understand that no risk, discomfort, or additional expenses will result from my participation. If any problem is

identified during the study, I understand that the researcher will not intervene but will recommend the appropriate referral.

I understand that any questions I have about the study will be answered by contacting Theresa Dawson at 616-966-8166 or Paul Huisenga at 616-895-2472.

I have read and understand the above information and I voluntarily agree to participate in this study. I understand that I will be given a copy of this consent.

Date

Participant's Signature

Researcher's Signature

Physician Consent

IV. Activity and Rest

- A. Reviews planned activity program.
- B. Discusses the need to increase walking and other activities gradually to prevent fatigue and dyspnea--stabilization at comfort zone.
- C. Discusses need for regular daily rest periods.
- D. Discusses the effects of emotional upsets.
- E. Discusses the effects of extreme heat and cold.

V. Monitoring disease/warning signs of decompensation

- A. Discusses the need to:
  - 1. Take pulse daily.
  - 2. Weigh daily at same time of day.
  - 3. Observe for fluid retention.
- B. Discusses symptoms which should be reported to physician promptly:
  - 1. Pulse less than 60 or greater than 100 beats per minute at rest.
  - 2. Sudden weight gain of two to three pounds in one or two days.
  - 3. Shortness of breath with usual activity.

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  - 2. Sudden weight gain of two to three pounds in one or two days.
  - 3. Shortness of breath with usual activity.

4. Shortness of breath at night.
  5. Swelling of ankles, feet or abdomen.
  6. Persistent cough.
  7. Frequent voiding at night.
  8. Fatigue or general slowing down in ability to perform daily work.
- C. Discusses prompt reporting of the reoccurrence of symptoms experienced when illness began.

VI Follow-up Care

- A. Discusses the importance of keeping regular appointments with physician.
- B. Discusses the relationship between compliance and the reduction of repeated acute episodes of congestive heart failure.

Did Patient receive traditional education. YES___ NO___

_____PAMPHLET: To Your Healthy Heart; A Patient's Guide:
Congestive Heart Failure

Clients' goals established:

Primary Client Concerns:

LIST OF REFERENCES

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