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Does Mutual Goal Setting Make a Difference in Level of Self-Efficacy for Patients with Congestive Heart Failure Receiving Home Care

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Self-Efficacy For Patients With Congestive Heart Failure
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ABSTRACT

THE EFFECT OF MUTUAL GOAL SETTING ON THE LEVEL OF SELF-EFFICACY FOR PATIENTS WITH CONGESTIVE HEART FAILURE RECEIVING HOME CARE

By

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This secondary analysis evaluated the effect of a mutual goal setting nursing approach on the level of self-efficacy to manage disease in general in patients with congestive heart failure (CHF). The conceptual frameworks utilized were King's theory of goal attainment and Bandura's theory of self-efficacy. The primary study used a convenience sample of 54 patients who had been admitted to two home healthcare agencies with the primary diagnosis of CHF. Data were collected at baseline, 3-months and 6-months. The data collection tool was the Self-Efficacy Tool, which was from Outcome Measures for Health Education and other Health Care Interventions (Lorig, et al., 1996). Statistically significant results were found in the mutual goal setting group as measured on post-test scores at 6-months (p=.04). This finding suggest that the nursing intervention of mutual goal setting may enhance the level of self-efficacy of patients to self-manage their disease in general.

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CHAPTER 1

INTRODUCTION

Since 1900, the number one killer in the United States has been cardiovascular disease (CVD). The only year this did not hold true was 1918 when the casualties of World War I outnumbered deaths from CVD (AHA, 2000). According to the "American Heart Association 2000 Heart and Stroke Statistical Update," more than 2,600 Americans die of CVD every day at a rate of about one death every 33 seconds. In the United States' population there are 59,700,000 Americans with CVD, and of this group 4,600,000 have a diagnosis of congestive heart failure (CHF).

Heart failure (HF) is the single most frequent cause of hospitalization for people age 65 and older, and it claims the lives of over 200,000 people in the United States annually (Francher & Martinez, 1999). Heart failure accounts for more than 11 million physician office visits and 3.5 million hospitalizations annually (Packer & Cohn, 1999). Heart failure was the number one diagnosis and highest cost diagnosis at a cost of $8 billion in 1998, for Medicare age Americans (CDC, 1999).

Heart failure continues to have a poor prognosis and is likely to remain a major clinical and health care problem of the future (Francher & Martinez, 1999). Currently, the estimated cost of CHF in the United States in 2000, is $22.5 billion, which includes health care provider cost,

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medication, home medical equipment, and loss of livelihood due to morbidity and mortality (AHA, 2000). Over the last decade, CHF has become one of the most significant public health problems in the United States (Hagenhoff, Feutz, Conn, Sagehorn, & Hunziker, 1994).

Heart failure leads to multiple readmissions, decreased quality of life and increased mortality rates (Kegel, 1995). The mortality rate for HF is about 50% within five years after diagnosis with one third dying in the first year (CDC, 1999). These statistical results confirm that HF is a grave concern for health care providers and health care systems.

The recent health care trends include decreased lengths of stay (LOS) of inpatients. Hospital inpatient care is very costly. Consequently, health care providers are pressured to decrease LOS. To meet this objective patients may be sent home too early with insufficient education of post discharge medical regiment (Knox & Mischke, 1999) Many patients are sent home before they can care for themselves, placing the main responsibility of care on their families. As hospitals continue to implement cost reduction strategies such as shorter LOS, the issue of post hospital care has become a primary concern for nurses and the entire health care team. The shorter LOS reduces the amount of time for nurses to educate the patients and their families.

When patients with HF are discharged without adequate post discharge education, it leads to inadequate self-

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management and may account for the national readmission
rate of 23% within 30 days post discharge (Knox & Mischke,
1999). According to Kegel (1995), many studies indicate
that 50% of hospital admissions for HF are preventable, and
that patient education and follow-up care can make a
significant difference in decreasing admissions of patients
with HF.

Purpose of the Study

The purpose of this study was to evaluate the effect of
mutual goal setting (MGS) nursing approach on the level of
self-efficacy for patients with CHF to manage their disease
at home. In particular, this study analyzed the data to see
if mutual goal setting made a difference in the levels of
self-efficacy for patients to manage their disease in
general.

The focus of the self-efficacy tool was on how
confident the patient is to self-manage his or her disease
in general with a series of five questions, rated by the
patient on a scale of one to ten. If the mutual goal
setting nursing approach enhances self-efficacy the
patient's self-management skill may also improve, thereby
increasing the patient's quality of life and potentially
impacting the national readmission rate.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

Imogene M. King's (1981) theory of goal attainment and Albert Bandura's (1977) self-efficacy theory provides the conceptual framework for this theoretical discussion. These two theories were integrated to provide one conceptual framework for this study of the self-efficacy of patients with heart failure to self-manage their disease. The literature review included self-efficacy, goal attainment, self-management, mutual goal setting, heart failure and chronic illness. An overview of King's (1981) general system framework, from which she derived the theory of goal attainment, was presented.

Conceptual Framework

King

Dr. King first introduced her general system framework for nursing in 1971, in her book, "Towards a Theory of Nursing: General Concepts of Human Behavior." Then in 1981 she published a "Theory for Nursing: Systems, Concepts, and Process," where she refined her general systems framework for nursing. King (1971) defined her conceptual framework as a general systems framework. King's general systems framework focuses on attainment of goals (Frey & Sieloff, 1995). A conceptual model focuses on certain phenomena that are regarded as relevant (Fawcett, 1999). King's general

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systems framework (Appendix A) was discussed to exhibit the characteristics of the theory that led to King's (1981) theory of goal attainment. King's general systems framework proposed that human beings perform their functional roles in three distinct interacting systems, the personal system, interpersonal system and social system (King, 1981).

King's (as cited in Tritsch, 1998) framework utilizes a general systems approach as the foundation for the exchange of information between humans and their environment. According to King, nurses need to understand the general systems framework and its concepts to provide a way of organization for their knowledge, skills, and values. Then the nurse can help individuals attain and maintain their health, help them to regain health after an illness, or help them live with a chronic illness or a disability (King, 1989).

King began to develop the general systems framework at a time when nursing was striving for status as a science and a profession (as cited in Fawcett, 1995). Nursing theory and its concepts offer guidance for nurses in interactions with individuals and groups, to help them reach the best possible outcomes (King, 1981). The concepts provide knowledge about the general systems framework and the theory of goal attainment.

Personal system. According to King (1981), the personal system is the individual. The personal system concepts include perception, self, growth and development, space and

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time. In goal attainment, perception is the individual's representation of reality, and it is unique to the individual. It is an awareness of persons, objects, and events. Self is the person's subjective environment, values, ideas, attitudes, and commitment. Growth and development include cellular, molecular, and behavioral changes in human beings. These changes are usually orderly and predictable, but may vary with individuals. Body space is the immediate physical territory occupied by the person and the person's behavior. Time is the order of events and their relationship to each other. Time is continual movement toward the future (King, 1981). King believes the personal system concepts need to be understood to comprehend a patient as being a real person and not just a diagnosis or room number (as cited in Tomey & Alligood, 1998).

Interpersonal system. According to King (1981), the interpersonal system develops when humans socialize as a group. The interpersonal system concepts include interaction, communication, transaction, role, stress, and coping. Interaction consists of verbal and nonverbal behavior between the individual and the environment or between two or more individuals. Communication is the transmission of information directly between persons or indirectly by other media such as a phone or letter. Transaction is the interaction between a person and another person or a person and the environment, for the purpose of

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goal attainment. Role is the expected behavior of a person in a specific position in a social system. Stress is the exchange of energy that is either positive or negative between a person and the environment. These concepts are interrelated in every nursing situation (King, 1989).

Social system. According to King (1981), the social system developes when interpersonal systems come together to form a larger system, such as family, school, work, and peer groups. The social system concepts include organization, authority, power, status, and decision-making (King, 1981). King described the social system as an organized system of social roles, behaviors, and practices developed to maintain values and to regulate the practices and rules (King, 1981). She proposed that people function through interpersonal relationships within the terms of their perceptions,- which influence their health, life, and role in the social system (King, 1971).

The goal attainment theory is based on concepts from the personal and interpersonal systems of the general systems framework. The social system concepts are not part of the goal attainment theory, and therefore, will not be discussed at this time. King (1989) states that decision-making is an essential part of the general systems framework and a shared collaborative process between the nurse and the patient. However, the decision-making concept was not utilized in the goal attainment theory.

King saw her framework as an approach to studying

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systems as a whole rather than as an isolated part of a system (as cited in Frey & Sieloff, 1995). The concepts of the general systems framework are concerned with the health of humans and the nursing care humans receive (King, 1981). King (1981) defined health as "dynamic life experiences of a human being, which implies continuous adjustment to stressors in the internal and external environment through optimum use of one's resources to achieve maximum potential for daily living", and illness is defined as "a deviation from normal"(p.5). King stated that health promotion and health maintenance for individuals, groups, and communities were the main goals of the theory of goal attainment (King, 1981).

Goal Attainment Theory

King's goal attainment theory (1981) represents an expansion of her original general systems framework. The framework and the goal attainment theory were based on King's assumption that "the focus of nursing is human beings interacting with their environment leading to a state of health for the individual, which is an ability to function in their social roles" (King, 1971, p.143). The concepts King selected from the general systems framework for the theory of goal attainment include self, perception, communication, interaction, transaction, role, stress, growth and development, space, and time (King, 1981). These concepts have been conceptually defined in the general systems framework discussion.

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According to King (1994), nurses who have knowledge of the theory of goal attainment and its concepts are able to understand what is happening with patient and family in a given situation and are better able to offer suggestions for coping and stress. The nurse is the key person to identify the goals and the means for patients to attain the goals (King, 1991). When nurses utilize the goal attainment theory, it can lead to effective care and improvement in the patient's health and quality of life (King, 1994).

The theory of goal attainment describes the nature of nurse-patient interactions, while the model of transaction (Appendix B) represents the nurse-patient interaction that leads to effective nursing care. The model of transaction was developed from the theory of goal attainment. The model indicates a human process of interactions between the nurse and the patient that involves goal setting and goal attainment (King, 1996).

The nurse and patient both have a role in the process of interaction. King's (1991) specific assumption about nurse-patient interaction is, "perceptions of nurse and patient influence the interaction process" (p. 21). Perceptions are an integral aspect of transactions. King (1981) defines perception as "each person's subjective world of experience," (p.146) past experiences, self-concept, genetics, socioeconomic groups, and educational background, all of which contribute to one's perceptual process (King, 1981). The nurse and client communicate

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their values, ideas, attitudes, needs, and perceptions. Each person makes a judgement, takes mental or physical action, and reacts to other individuals and the situation. This interaction leads to mutually set goals and the nurse and client explore means to take actions to obtain the goals. This action of shared knowledge, skills practiced, and skills obtained lead to verbal or nonverbal interaction between the nurse and client. Interactions lead to transactions and transactions lead to goal attainment (King, 1981). Additionally, this model has a feedback loop to return to the beginning if the outcome of the interaction is not goal attainment. The goal attainment theory and the model of transaction provide an effective method of promoting mutual goal setting that may lead to positive patient behaviors in self-managing their disease in general.

<div align="center">Self-Efficacy Theory</div>

<u>Bandura</u>

Albert Bandura is a psychologist who developed the self-efficacy theory to predict an individual's health behaviors and explain the individual's health behavior practices (Blair, 1993). Self-efficacy is the belief in one's ability to carry out a task or achieve a goal that will produce a certain outcome (Bandura, 1977). According to Grusec (1992), self-efficacy is a major determinate of self-regulation and a central focus of Bandura's research since the 1970s.

<div align="center">10</div>

Bandura (1977) postulated the importance of the cognitive process in changing behaviors in his publication, "Self-efficacy: Towards a unifying theory of behavioral change." Bandura (1995) proposes that self-efficacy makes a difference in how people feel, think, and act. Self-efficacy levels can enhance or impede motivation and affect an individual's emotional reactions.

The role of self-efficacy in the area of health is viewed as an interplay between biological and psychosocial factors (Bandura, 1995). Since so many health issues relate to lifestyle choices, there exist many opportunities for humans to positively impact their own well being. Bandura's (1986) system of self-regulation could help build the necessary skills of self-monitoring, goal setting, and self-management.

According to Bandura and Jourden (1991), goal feedback is of great importance. Providing feedback about others' performance and about one's personal performances has a strong influence on behaviors and self-efficacy. Enhanced self-efficacy leads to analytic thinking, to goal setting, and desired outcomes. Positive feedback leads to encouragement to attain and maintain health promotion behaviors.

According to Bandura, (1986) there are four major factors that influence the development of self-efficacy: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. According to Borsody,

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Courtney, Taylor, and Jairath (1999), these four major factors influence the magnitude, strength, and generality of efficacy expectations of patients with heart failure.

1. Performance accomplishments include learning through personal experiences, past successes, and failures, e.g. the patient with heart failure was able to walk a mile today.

2. Vicarious experience refers to learning through observation, e.g. the patient with heart failure observed other patients with heart failure exercising for 30 minutes.

3. Verbal persuasion is positive verbal appraisals offered by others or self, e.g. patients in an exercise group encouraged other patients with heart failure to join an exercise program that was developed by the rehabilitation center for patients with heart failure.

4. Emotional arousal is the patient's interpretation of his or her physiologic ability and limitations, e.g. a patient with heart failure did not experience fatigue or shortness of breath during the exercise session, thus interpreting it as a good workout.

In summary, there appears to be a relationship between King's (1981) theory of goal attainment and Bandura's (1977) self-efficacy theory. The goal attainment concepts are similar to the four major factors that influence the development of self-efficacy. Bandura's performance accomplishments and King's perception concept both

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represent a person's past experience, perception of life events, and their reality. Bandura's vicarious experience factor and King's interaction concept are both speaking of learning from others. Bandura's verbal persuasion factor and King's communication concept both give encouragement to accomplish a goal. Bandura's final factor that influences self-efficacy is emotional arousal, which may inform individuals whether they are capable of performing or maintaining a given action. Bandura's emotional arousal and King's stress concept can affect a person's ability to reach a goal. These factors and concepts may increase the level of self-efficacy for patients with heart failure, leading to better quality of life. This, in turn, may enable patients to face the ongoing challenges and demands of chronic illness.

Figure 1, the Combined Model of Mutuality and Self-Efficacy based on works of King and Bandura unites the theories of goal attainment and self-efficacy. The nurse-patient interaction begins with "two people coming together to help and be helped to maintain a state of health that permits functioning in roles"(King, 1981, p.142). The nurse and patient give information to each other, collaborate to identify goals and explore means to achieve goals (King, 1981). This leads to mutuality between the nurse and patient. This mutual goal setting (MGS) nursing approach facilitates collaborative goal setting. Self-management of disease

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Combined Model of Mutuality and Self-Efficacy

Nurse   →   Mutuality   ←   Patient

↓   ↑

Mutual Goal   Perception
setting   (Self-Efficacy)

↓   ↑

Self-Managment   Self Efficacy
of Disease   Level

:..:
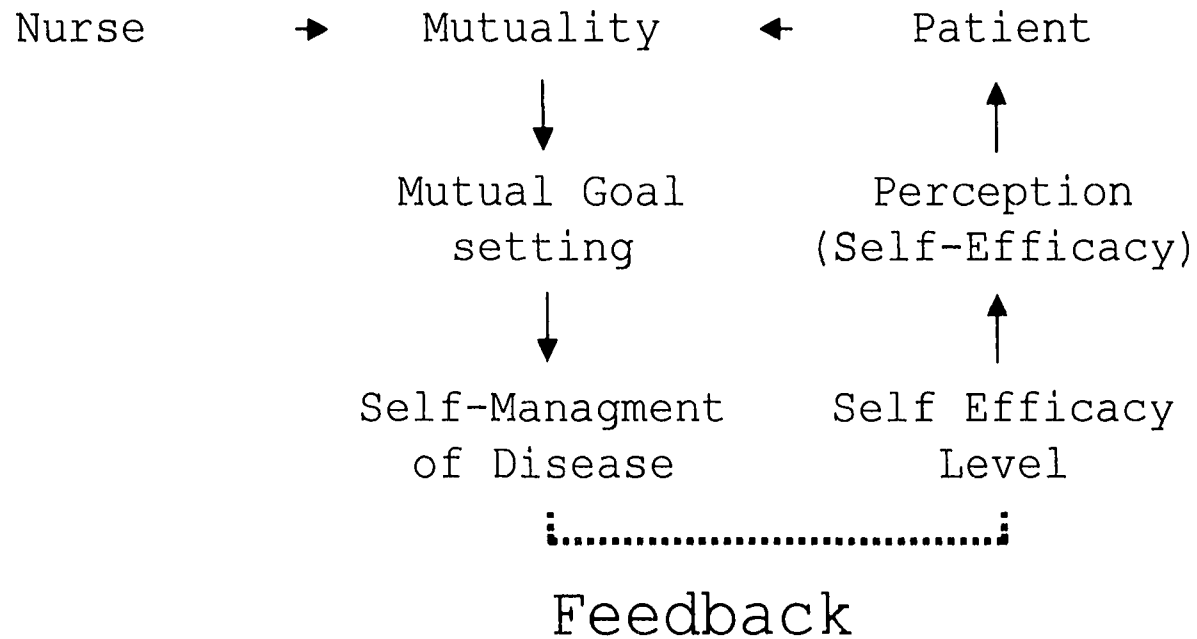
Feedback

Figure 1 - Combined Model of Mutuality and Self-Effficacy

reflects success of goal attainment. Additionally, this model has a feedback loop to return to the patient's perception (self-efficacy level) if the outcome of the interaction is not self-management of disease in general. The process will begin again at the nurse-patient interaction, which will lead to mutuality, to mutually set goals to self-management of disease in general. The level of self-efficacy will affect each step of the goal setting process, influencing confidence of the patient to perform activities and tasks of self-management of one's disease.

Literature Review

The discipline of nursing is evolving, and nursing theory and conceptual frameworks have provided useful tools in the development of the discipline (Rooke, 1995). Analysis of the nursing literature has shown the utilization of King's theory of goal attainment and Bandura's theory of self-efficacy in research. However, in reviewing the literature, it became clear that there is a lack of research concerning the relationship between the nursing approach of mutual goal setting and self-efficacy.

Mutual goal setting. The relationship between the nursing approach of mutual goal setting (MGS) and self-efficacy of the patient with congestive heart failure (CHF) to self-manage his or her disease was the focus of this study. Mutual goal setting has been investigated by many studies (Blair, 1993; Blair, 1995; Blair, Lewis, Viewig, &

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Tucker, 1996; Horsley, Crane, Haller, & Reynolds, 1982; Hutchison & Quartaro, 1995; Jolly & Winkler, 1995). Mutual goal setting to improve care in the context of chronic disease has not received attention in the medical literature, despite the importance of goal setting for patients to reach their optimal health outcomes (Bradley, Bogardus, Tinetti and Inouye, 1999).

MGS was among the 10 protocols developed in the Conduct and Utilization of Research in Nursing (CURN) project. It described how to implement MGS and how to conduct a research study to evaluate the effects of MGS on goal attainment. The clinical protocol, "Mutual Goal Setting in Patient Care," included forms to collect and tabulate the data, goal attainment follow-up guide (GAFG) and instruction on how to calculate the goal attainment scores. The goal attainment scaling (GAS) is a mathematical formula used to calculate the goal attainment scores and to show the degree to which the goals have been attained (Horsley, Crane, Haller, and Renolds, 1982).

According to Maves (1992), utilizing GAS can facilitate goal setting. Goal attainment scaling involves the construction of a goal attainment follow-up guide, which includes a set of goals that are mutually defined, weighted, rated, and scored for each patient. The rating of goal attainment scores provide a quantifiable measurement of the success of the patients in reaching the mutually set goals. The care provider can map the progress of the mutual

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goal setting group by using the goal attainment follow-up guide and the goal attainment scaling.

Blair (1995) utilized MGS to increase the individual's ability to perform the activities of self-care. The sample of 79 residents was randomly selected from three different nursing homes. Then each resident was randomly placed in one of three different study groups. Each group received a different intervention. Group One's intervention included MGS, a modifier of reminding the resident to do the needed activities to reach the goals, with assistance provided by staff if needed. Group Two utilized the same intervention of MGS as Group One except they received no reminder to perform the needed task to reach their goals. Group Three received no interventions; only routine nursing care was given.

The possible range of group mean scores was 23 to 77, utilizing GAS. The results found Group One scored significantly higher in the goal of self-care improvement. Group One had a mean score of 46.2 (SD=9.9), while Group Two had a mean score of 34.1 (SD=4.6). Group Three's mean score of 27.7 (SD=7.8) was significantly less than Group One's. These results seem to support the importance of reinforcing a patient's knowledge of tasks needed to reach self-care goals.

In a randomized controlled research study by Ni, et al. (1991) the knowledge level of adherence to self-care among a group of patients with heart failure was analyzed. The

sample of 120 patients was randomly selected from a group
of patients in an outpatient heart failure treatment
program between April of 1997 and June of 1998. The team of
physicians and nurses conducted a needs-assessment survey
of the patients with heart failure who consented to
participate in the study.

The results of the study found that only two-thirds of
the patients had received information and advice from
health care providers on self-care. When asked, only 14% of
them understood the diagnosis of congestive heart failure.
The need for daily weights was recognized by only 40% of
the patients as being important. The need to decrease salt
intake was understood by 80%, but only one-third of them
avoided salty food. The need to restrict fluids was
understood by 64%, while 36% thought they should drink lots
of fluids.

The study also indicated that poor adherence behaviors
were found to be associated with those who were unmarried,
had a lack of knowledge of self-care, low self-efficacy, no
prior hospitalization, and not being referred by a
cardiologist to the heart failure treatment program. These
findings demonstrate the need for ongoing and repeated
patient education, and effective communication between the
patient and the health care provider. An effective
intervention plan is needed to help patients understand and
to retain the information to practice self-care. The study
indicated the importance of family involvement during the

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education process, in order to enhance the patients' self-confidence to maintain their health.

According to Burks (1999), the demands placed on the chronically ill patient can make the task of goal attainment difficult. The demands of physical symptoms and emotional stress, the feelings of helplessness and the uncertain outcomes of the future are just a few of the many demands of chronic illness. Self-management is a way for a patient to cope with the many demands of chronic illness.

According to Blair (1993), patients need to be involved in selecting the treatment plan for their health care needs. This will increase their awareness of their disease and help motivate them to participate in goal attainment and self-management of their disease. Patients have their needs, wants, and goals that the health care provider can help obtain (King, 1981). A patient's progress towards better self-management of chronic disease can lead to patient satisfaction (King, 1994).

Mutual goal setting and goal attainment are important aspects of the nurse-patient relationship. King (1994) suggested that goal setting and goal attainment lead to satisfaction and to the perception of one's ability to accomplish things in life. King (1981) proposed that goals should be mutually set, and that goals are the means by which the nurse and patient will achieve the optimal level of functioning for the patient.

Helping patients to assume greater responsibility for

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their own health care has been the main focus of the nursing profession. King (1981) proposed that nurses are the constant providers in the health care system. They play an important role in helping individuals cope with health disturbance, promote health maintenance, and encourage restoration of health.

Inadequate education and inadequate discharge planning increase the need for nursing approaches that prepare patients and their families for self-care post discharge (Kegel, 1995). Chronic disease requires patients to assume responsibilities for the self-management of their disease (Husband, 1988). CHF is a chronic disease, which requires the patients to assume the tasks and behaviors for the daily management of their disease.

According to King (1992), the duty of health care providers is to share the needed information for patients to be able to make an informed decision about their health care. Whelton (1999) wrote that the focus of King's goal attainment theory is the ability of the patient to choose actions based on knowledge. Purposeful actions involve both knowledge and choice. However, information received does not mean knowledge is retained or practiced as many studies have demonstrated.

Self-efficacy. Bandura's self-efficacy theory is an extension of his research into the cognitive processes involved with learning. Bandura (1977) proposed that learning would be laborious and hazardous if people had to

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rely only on the effects of their own actions to inform them what to do. Most human behaviors are learned from observing others and modeling the behaviors, attitudes, and emotional reactions of others.

Several studies have been conducted on varying aspects of self-efficacy (Bandura, Blanchard & Ritter, 1969; Bandura, 1977;). Bandura, Blanchard and Ritter (1969) found that treatment approaches that achieve psychological changes are due to gradual learning experience. This approach may induce behavioral and attitudinal changes. Bandura's theory of self-efficacy (1977) implies that self-efficacy is the confidence in one's abilities to behave in such a way as to achieve a goal that will produce a certain outcome.

In a longitudinal study, McAvary, Seeman, and Rodin (1996) examined the predictors of change in domain specific self-efficacy. The domains included health, transportation, family relationships, finances, safety, relationships with friends, living arrangements, and productivity. Letters were sent to Connecticut citizens to randomly recruit the sample. The sample of 264 males and females, age 62 and older, volunteered to participate in the study. The study included an initial baseline interview, followed by eight interviews spaced at varying time intervals over a three-year period. At each interview, subjects were questioned about their feelings of self-efficacy in eight domains of living. Bandura (1977) postulated that self-efficacy belief

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influences the initiation of behaviors and the length of time and effort put forth during a demanding situation, such as the eight domains of living.

The results of the study indicated that while demographic and health factors were predictive of decline in self-efficacy, the most consistent predictors of decline were psychosocial characteristics, such as depression. Approximately 95% of the sample reported high efficacy in the domains of health, transportation, family relations, friendships, and living arrangements and only 78% reported high efficacy for the productivity domain. The subjects reported they felt efficacious in the safety (65%) and financial (47%) domains of living. This study points out factors that may affect patients' self-efficacy in their living domains.

The purpose of Scherer and Schmieder's (1996) longitudinal study was to examine changes in self-efficacy of patients with chronic obstructive pulmonary disease (COPD) after attending a pulmonary rehabilitation program. Data were collected pre-program and one month post-program. The pulmonary rehabilitation program consisted of 36 one-hour classes conducted three times a week for twelve weeks by a clinical nurse specialist. The classes focused on pathophysiology and management of COPD, self-care instruction, and social support. The program was designed to incorporate the four factors that influence self-efficacy, performance accomplishment, vicarious

experiences, verbal persuasion, and control of emotional or physical arousal.

The sample consisted of 29 self-selected subjects with a diagnosis of COPD who participated in an outpatient pulmonary rehabilitation program held in western New York. The age of the subjects ranged from 49 to 82 years old. The average number of years these individuals were diagnosed with COPD was ten.

The COPD Self-Efficacy Scale (CSES), developed by Wigal, Creer and Kotses in 1991 was used to assess COPD patients' level of confidence regarding their ability to manage or avoid breathing difficulty while participating in certain activities. Following program attendance, 55% of the subjects felt confident that they could manage or avoid breathing difficulty; only 39% of the subjects felt confident prior to the program. The CSES scores were calculated and analysis of variance was carried out to determine whether there was a significant difference between pre-program and one month post-program. There was a significant improvement between pre-program and one month post-program total scores on the CSES (F=13.27, p=.001). There was no control or comparison group in the program.

According to Borsody, Courtney, Taylor, and Jairath (1999), the home care nurse can positively influence self-efficacy of patients with heart failure to increase their physical activity, by encouragement, support, and by creating a safe and supportive environment to perform tasks

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that lead to better health care. The home care nurse assesses patients' needs and abilities, and provides guidance to increase their abilities to perform physical activities and improve their quality of life. According to Oka, Gortner, Stotts, and Haskell (as cited in Borsody et al.,1999)self-efficacy was found to be the strongest predictor of physical activity, for patients with heart failure.

The similarities between the concepts and assumptions of King's goal attainment theory, mutual goal setting and Bandura's self-efficacy are found in the literature. But the relationship of mutual goal setting to enhance self-efficacy is not provided in the literature. The need for further studies of the nursing approach of mutual goal setting to enhance self-efficacy of patients to self-manage disease in general is duly noted.

The nursing challenge for the future is to develop more nursing theory and nursing research to describe, explain, and predict phenomena to help patients to reach their optimal outcomes. It is also important to help all health care providers understand and respect the nursing profession's contribution to health care of today. The future of nursing is to recognize our power as individuals and to own our power as a profession.

Research Question

Does mutual goal setting make a difference in the level of self-efficacy for patients with congestive heart failure

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receiving home care?

Hypotheses

There is a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 3-months.

There is a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 6-months.

Definition of Terms

1. Mutual goal setting is a nursing approach where the nurse and patient explore the patient's needs and then mutually determine the goals needed to obtain the determined outcome for the patient.

2. Self-efficacy is defined as the confidence to self-manage heart failure.

3. Heart failure is defined as the primary diagnosis with an ICD-9 code of 428 for congestive heart failure.

4. Home care refers to nursing staff visits to the patient at home to deliver health care interventions.

Chapter 3

Methods

The secondary analysis was part of a larger prospective, longitudinal investigation that was proposed and conducted by Kay Setter-Kline, R.N., Ph.D., the primary investigator. The unpublished primary study was prompted by the absence of literature addressing the effects of advanced practice nurses' interventions on the self-management of heart failure in persons receiving home care. The study was funded in part by the Midwest Affiliate of American Heart Association and supported by Grand Valley State University where Dr. Kline is a Professor and Director of the undergraduate program of nursing. The primary study was conducted to determine the effect of specific nursing approaches, which included supportive education and mutual goal setting for self-management of heart failure in persons receiving home health care.

The secondary analysis utilized data from the primary study,. According to Polit and Hungler (1995), a secondary analysis involves the use of data gathered in a previous study to test new hypotheses or explore new relationships. This study explored the effects of mutual goal setting on the level of self-efficacy for patients with congestive heart failure to manage their disease in general.

There are advantages and disadvantage of utilizing a secondary analysis. The advantages are efficiency and

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economy because a research project is time-consuming and expensive. The disadvantage is that an investigator of a secondary analysis does not play a role in collecting the data, which can lead to deficits, problems, unmeasured variables, and unasked questions (Polit & Hungler, 1995). Nursing researchers have used a secondary analysis approach for exploring quantitative data, which is the form of this secondary analysis.

Research Design

According to Fawcett (1999), "research is a formal, systematic, and rigorous process of inquiry used to generate and test the concepts and propositions that comprise middle-range theory, which are derived from or linked with a conceptual model" (p. 8). The primary research study was a quantitative study that used a blind, experimental design to evaluate the effects of two nursing approaches. Approximately 86 subjects were randomly assigned to one of the following three groups: the control group, the supportive education group, and the mutual goal setting group.

Each of the groups received nursing approaches delivered by only one provider (a graduate nursing student) to prevent cross contamination among groups. The control group received a placebo nursing approach for health promotion, excluding topics covered in the two treatment groups. The second group received a supportive education nursing approach, based on the Agency for Health Care

Policy and Research (AHCPR) Heart Failure Guidelines and Orem's theory of nursing practice and self-care model (Orem, 1995). The third group received a nursing approach of mutual goal setting (King, 1981) based on the AHCPR heart failure guidelines.

The primary study was a blind study. Neither the subject, data collectors nor the home health care agency staff knew which group received which approach. Randomization was accomplished by the Principal Investigator's use of a chart of random numbers to assign subjects to one of the three groups. Blindness of a study eliminates observer biases of the subjects, agency staff, and the data collectors that might have distorted the data or influenced participants to respond in a certain way. Randomization eliminates bias of differences among subjects in each group that is being compared (Polit & Hungler, 1995).

Research assistants were hired to administer the nursing approaches and collect data. Data collection occurred at two different home health care agencies. Data were collected at baseline prior to the institution of any interventions and then post intervention at 3, 6, 9, and 12 months. This design enhances the interpretability of the results of research (Polit & Hungler, 1995). The secondary analysis utilized data collected at baseline, 3 and 6 months.

The primary investigation met the definition of a true

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experimental design, which is a scientific investigation that utilizes manipulation, control, and randomization (Polit & Hungler, 1995). Kline's use of two nursing approach interventions delivered to different subject groups represents the property of manipulation of the independent variables, therefore strengthening internal validity. Use of random assignment of subjects in one of the three groups (control, supportive education, and mutual goal setting) meets the properties of control and randomization.

The advantage of using a true experimental design is that it is a powerful method to test hypotheses of cause-and-effect relationships between variables. The disadvantages are threats to the internal validity. The possible major threats to the internal validity are the threat of mortality with a longitudinal study and the threat of testing effect with a pretest and four posttests. The mortality threat with the primary study was loss of subjects with chronic heart failure during the course of the study. The loss of subjects was due to decreased health status or even death, loss of interest in the nursing approach and/or the study. The threat of testing effect with the administration of pretest of the dependent variable (self-efficacy) to self-manage their heart failure, was asking them their opinions or attitudes which could result in changes in the dependent variable apart from the independent variable (mutual goal setting group or

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the control group).

According to Polit and Hungler (1995), the possible major threats to the external validity are the Hawthorne effect, the sampling design and inability to control the setting. The Hawthorne effect occurs when the knowledge of being in a research study leads to subjects changing their behaviors thereby obscuring the effect of the variable of interest. The subjects in the primary study knew they were subjects of a research study, which may have led them to strive for increased self-efficacy to manage their disease without the effect of the nursing approach.

The sampling designs of choosing chronic heart failure patients from home health care agencies could result in the accessible sample not being like the target population. Most patients with heart failure are at the end stage of their disease if they are being seen by a home health care agency. The patients with heart failure are in various stages of the disease process, not just end stage disease.

The inability of the investigator to control the study setting because the nursing approaches were performed in the research subjects' homes, may have led to failure to achieve the constancy of conditions. An attempt to control this was to use the same nursing approach provider for each visit and to have the same data collector for each agency. Despite the possible limitations of the true experimental design, it is still the most powerful method available to researchers for testing hypotheses of cause-and-effect

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relationships between variables (Polit & Hungler, 1995).

<u>Sample</u>

The sample for the primary study was a convenience sample of approximately 86 patients with a primary diagnosis of congestive heart failure that had been referred to the care of two home health care agencies in Michigan. The rationale for using two home health care agencies in two different cities was to control agency bias and help to collect enough subjects in a reasonable time frame. The eligibility criteria met prior to inclusion into the primary study were as follows: (a) age 18 years or greater; (b) patient of a home health care agency during the initial data collection time; (c) ability to speak and understand the English language; (d) sign an informed consent to participate in the study; and (e) a primary diagnosis of heart failure when referred to home health care. Research subjects' rights were protected through the Human Research Review Committee of Grand Valley State University (Appendix C) and approval from each participating home care agency. This secondary analysis received the approval of the Human Research Review Committee of Grand Valley State University (Appendix D).

The primary study incorporated three instruments, which include one to measure quality of life, one to measure self-management, and a demographic tool used to describe the sample. This secondary analysis used the demographic data collected during the primary study and a component of

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the self-management tool.

The data collector completed the demographic data tool (Appendix E) during the first data collection visit. Information regarding age, marital status, level of education, health insurance, health care provider treating heart failure, annual income, and years with the diagnosis of heart failure was collected. The instrument to measure self-efficacy to manage disease in general (Appendix F) was a section of the self-management tool utilized in the primary study. The instrument to measure self-efficacy was utilized in this secondary analysis. These tools are considered public domain; therefore, they can be used without requesting copyright permission (Lorig, et al., 1996)

The Chronic Disease Self-Management Tool (SMT) was originally developed from the work of Lorig et al., (1996) to assess the effectiveness of self-management programs for patients with chronic disease. The self-management programs were developed to improve quality of life and reduce health care cost for patients with chronic disease. Lorig et al., (1996) used the SMT to assess patients with chronic arthritis. Kline modified and combined sections of the original tool to adapt it for patients with heart failure. Some of the original sections of the chronic disease SMT were unchanged such as the self-efficacy to manage disease in general tool.

The self-efficacy to manage disease in general

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instrument (Appendix F) is a Likert scale that involves
summation of scores on a set of five questions that assess
the patient's ability to:

1. Do all the things necessary to manage your condition on
   a regular basis?
2. Judge when the changes in your illness mean you should
   visit a physician?
3. Do the different tasks and activities needed to manage
   your health condition so as to reduce your need to see a
   physician?
4. Reduce the emotional distress caused by your health
   condition so that it does not affect your everyday life?
5. Do things other than just taking medication to reduce
   how much your illness affects you everyday life?

The patients/respondents are asked to indicate their degree
of agreement or disagreement to each question. The score is
from 1 to 10 with one being not confident and ten being
totally confident, for a possible range of 5-50.

According to Polit and Hungler, (1995) the internal
consistency approach to estimating an instrument's
reliability is probably the most widely used method in
research. The internal consistency for the instrument is
the degree to which the subparts of an instrument are all
measuring the same attribute or dimension, as a measure of
the instrument's reliability. The internal consistency
coefficient of the self-efficacy to manage disease in
general was.87 (Lorig et al., 1996). The reliability

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coefficient was 0.85 in the secondary analysis.

Procedure

Kline (2000) received approval for the primary study from the Grand Valley State University (GVSU) Human Research Review Committee as well as the two home health care agencies. Data for this secondary analysis are from the larger primary study. Before any data collection, the primary investigator recruited graduate students in the GVSU Master's of Nursing program to be hired as research assistants. All but two were trained to provide the nursing approaches, and these two were trained to assign subjects for inclusion in the primary study.

The subjects were chosen from patients admitted to the agency with a primary diagnosis of heart failure. The home health care manager approached the patients who met the criteria set by the primary investigator. A script (Appendix G) was used to introduce the patients to the primary study. If the patients were interested in participating in the primary research study, a data collector visited the patients' home, within a week.

The purpose of the first visit was to explain the research study and obtain verbal and written informed consent. This was accomplished using the script to obtain consents, explanation of the study and informed consent instrument (Appendix H). After informed consent (Appendix I) was signed, the graduate nurse completed the initial data collection form (Appendix E) at the first visit, if

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possible, depending on the patient's condition (shortness of breath or fatigue). The initial data collection consisted of demographic information, self-management practices and the perception of their quality of life. Collection of data was pre-intervention at baseline, then post intervention at 3, 6, 9, and 12 months for all groups during the primary study. The secondary analysis examined baseline, 3 three and 6 six months data of the control and mutual goal setting groups. The data from the primary study will remain confidential since the subjects are identified by numerical designations only.

Patients were randomly assigned to one of the two intervention groups or the control group. Trained research assistants provided the nursing approaches in weekly sessions of about 20 minutes for eight weeks. Both the mutual goal setting group and the control group received routine home health care. The mutual goal setting group also received the mutual goal setting nursing approach focused on AHCPR guidlines, while the control group received the health promotion teaching. Goals were implemented using the goal attainment follow-up guide (GAFG) and documented on goal attainment sheet (GAS) to map progress, as descried by Maves (1992). The secondary analysis evaluated the effect of the MGS on the level of self-efficacy of patients with CHF to manage their disease in general at baseline, 3, and 6 months.

There are ethical concerns with most research designs.

The major concern would be the potential of risk to the subject. The risk in the primary research study included confidentiality, risk of interference with routine care and risk that the subject would become short of breath and/or fatigued during the interventions. The nurse who provided the intervention or collected the data would address subjects' needs to rest or stop the intervention if they should become short of breath and/or fatigued. The study was designed to reduce the possibility of breach of confidentially. Scheduling the study visits during times not scheduled by agency staff reduced the risk of interfering with routine home health care.

CHAPTER 4

RESULTS

The purpose of this study was to determine if the effect of mutual goal setting (MGS) as a nursing approach makes a difference in the level of self-efficacy for patients with congestive heart failure (CHF) to self-manage their disease. The secondary analysis utilized a two-group comparison using the control and mutual goal setting nursing intervention groups. The two groups were evaluated at baseline, 3 and 6 months. In this secondary analysis the research question was: does mutual goal setting (MGS) make a difference in the level of self-efficacy for patients with congestive heart failure receiving home care? Data were analyzed using the Statistical Package for the Social Sciences (SPSS) at Grand Valley State University. Significance was set at $p<.05$ for all tests. Although an analysis covariance (ANCOVA) was the statistical procedure of choice to control for baseline differences, ANCOVA was not used due to the small sample size of the two groups. Instead, independent t-tests were used to examine difference between the groups and to test the research hypotheses.

Sample Demographic Characteristics

The initial demographic data was completed prior to randomization. This secondary analysis utilized two groups out of the three groups that were in the primary study. The control group and the mutual goal setting (MGS) group were compared to assess for significant differences. The demographic variables evaluated in the secondary analysis were age, education, and length of time with the diagnosis of congestive heart failure (CHF). Descriptive statistics were used to describe the sample.

The randomly assigned sample consisted of 31 subjects in the control group and 23 subjects in the MGS group. The ages of the control group ranged from 56-94, with a mean age of 75.68 (SD=9.96) and the ages of the MGS group ranged from 61-90, with a mean age of 76.65 (SD=8.91). There was not a statistically significant difference between the ages of two groups using an independent t-test (t=-.372, df=52, p=.712).

Due to the distribution of the responses, the data for highest level of education were collapsed from seven separate educational categories to form three categories. (See Table 1) The 1st-7th grade and 8th-10th grade accounted for only 14 students, therefore, they were 14 students, therefore, they were combined to form a group of 10th grade

Table 1

Characteristics of Subjects

	Mutual Goal Setting (n=23)		Control (n=31)	
	freq	%	freq	%
Highest Level of Education				
1–10th	6	26.1	8	25.8
11th–12th	13	56.5	19	61.3
College	4	17.4	4	12.9
Length of Time with Heart Failure				
Less than 1 year	12	52.2	10	32.3
1–2 years	1	4.3	5	16.1
3–5 years	3	13.0	6	19.4
More than 5 years	7	30.4	10	32.3

and under, 11th–12th grade category remained unchanged and four categories of college were collapsed to one category. Cross-tabulation and Chi-square analyses were completed to determine if there were significant differences between the educational groups. The results of the chi-square analysis

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determined that there was no statistically significant difference between the educational levels of the two groups (χ_2=0.231, df=2, p=.891).

The length of time the subjects had been diagnosed with heart failure were divided into four categories of less than 1 year, 1-2 years, 3-5 years and greater than 5 years. A cross-tabulation and Chi-square analysis were used to determine if the control and the MGS groups were significantly different in the length of time the subjects had been diagnosed with CHF. The chi-square analysis determined that there was no significant differences between the two groups (χ_2=3.264, df=3, p=.353). Table 1 summarizes the two groups, the levels of education and length of time the subjects had been diagnosed with CHF.

Data Analysis

In the secondary analysis, there were 54 subjects at baseline, with 31 in the control group and 23 in the MGS group. T-tests were performed to analyze the research question, test the hypotheses and compare the self-efficacy scores between and within the two groups at baseline, 3 and 6 months. The level of significance was set at $p < .05$.

Research Question. Data analyses were performed to answer the research question, "Does mutual goal setting make a difference in the level of self-efficacy for

patients with congestive heart failure receiving home care?" A t-test was used to determine if there was a significant difference between the mean self-efficacy scores of the two groups. At baseline there was no significant difference (t-0.70, df=52 p=.487) between the two groups. Therefore, any differences found in this secondary analysis may not be related to baseline differences between the groups. (See Table 2)

Table 2

Analysis of Self-Efficacy Scores

| | Control Group | | | MGS Group | | | | | |
	N	Mean	SD	N	Mean	SD	t	df	p
SE at baseline	31	38.10	8.28	23	39.87	10.32	-0.70	52	.487
SE at 3 months	28	39.14	8.05	16	41.63	7.43	-1.01	42	.318
SE at 6 months	23	38.04	8.79	15	43.93	7.69	-2.12	36	.041

MGS= Mutual Goal Setting   SE=Self-Efficacy

Forty-four subjects completed the 3 month data collection, with 28 in the control group and 16 in the MGS group. Thirty-eight subjects, completed the 6 month data collection, with 23 in the control group and 15 in the MGS group. Attrition problems were due to the age of the subjects, deteriorating health status, placement in nursing homes and death.

Hypothesis I: There is a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 3-months. The mean self-efficacy scores for the MGS group at 3-months was 41.63 (SD 7.43) while the control group was 39.14 (SD 8.05). The t-test results (t=-1.01 df=42 p=.318) showed no significant difference at 3-month between the two groups. Therefore, Hypothesis I was not supported. (See Table 2) Hypothesis II: There is a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 6-months. The mean self-efficacy score at 3-months for the MGS group was 43.93 (SD 7.69), which was higher than the control group with a mean of 38.04 (SD 8.79). The t-test results (t=-2.12, df=36, p=.041) identified a statistically significant difference between the control group and the MGS group, thus supporting Hypothesis II. (See Table 2)

To summarize, there was no significant difference at baseline or at 3-months between the two groups. The independent t-test results (t=-2.12, df=36, p=.04) revealed a statistically significant difference at 6-months between the control and MGS groups.

Findings of Interest

Control Group. A paired t-test was performed to assess differences within the groups at baseline, 3 and 6 months. The paired t-test for the control group did not statistically show any significant change between baseline and 3 months (t=-.133, df=27, p=.895). The test also did not show significant change between baseline and 6 months (t=-.060, df=22, p=.953) or between 3 and 6 months (t=.000 df=21, p=1.0). The mean self-efficacy score for the control group did not significantly change over time. (See Table 3)

MGS Group. Comparatively, the paired t-test for the MGS group demonstrates no statically significant difference within the MGS group. The MGS paired t-test indicated that between baseline and 3-month there were no significant difference (t=-.421, df=15, p=.680). Between baseline and 6 months there were no significant difference (t=-1.199, df=14, p=.251) and between three and six months (t=.313, df=11, p=.760)the difference was not statically significant within the MGS group. (See Table 3)

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Table 3

Paired t-test Results

Time Intervals	M	SD	t	df	p
Control Group					
SE Baseline	38.86	8.13			
SE 3 months	39.14	8.05	-.133	27	.895
SE Baseline	37.91	8.22			
SE 6 months	38.04	8.79	-.060	22	.953
SE 3 months	38.55	8.09			
SE 6 months	38.55	8.65	.000	21	1.000
MGS Group					
SE Baseline	40.69	9.34			
SE 3 months	41.63	7.43	-.421	15	.680
SE Baseline	41.67	9.06			
SE 6 months	43.93	7.69	-1.199	14	.251
SE 3 months	44.17	4.97			
SE 6 months	43.67	8.37	.313	11	.760

SE=Self-Efficacy   MGS=Mutual Goal Setting

CHAPTER 5

DISCUSSION AND IMPLICATIONS

The effects of the mutual goal setting intervention on the level of self-efficacy for patients with congestive heart failure (CHF) receiving home care prompted this secondary analysis. The secondary analysis utilized concepts from King's (1981) goal attainment theory and model of transaction and Bandura's (1977) self-efficacy theory. The self-management tool (SMT) was used in Kline's (2000) unpublished primary study. The section of the SMT tool used in this study was an instrument to measure self-efficacy to manage disease in general (Appendix F). Kline's self-management tool was derived from the Chronic Disease Self-Management Study Measures (Lorig et al., 1996).

According to King (1981), interaction between a nurse and a patient that involves shared information, mutual goal setting (MGS), and goal attainment, can lead to effective nursing care. Reaction of the nurse and patient to each other's actions, perceptions, judgements and the situation, can lead to interaction. The interaction leads to mutually set goals, the means to take actions are explored and agreed upon to obtain goals, the transactions lead to

goal attainment. Goal attainment may lead to positive patient behaviors in self-managing their disease in general.

Bandura (1977) proposed that self-efficacy is the belief in one's ability to perform a task or behavior that achieves a goal that will produce a certain outcome. Self-efficacy can make a difference in how people feel, think, and act. The level of self-efficacy can enhance or impede motivation to act (Bandura, 1995).

The review of literature revealed there is a lack of research concerning the relationship between the nursing approach of mutual goal setting and self-efficacy. However, this secondary analysis found a relationship between mutual goal setting nursing intervention and the subjects' level of self-efficacy to manage disease in general. Research to support King's (1981) and Bandura's (1977) theories separately was readily found (Bandura, 1977; Blair, 1993; Blair, 1995 Blair, Lewis, Viewig, & Tucker, 1996; Horsley, Crane, Haller, & Reynolds, 1982; Gruse, 1992;McAvary, Seeman, & Rodin, 1996; Ni et al., 1991; Scherer and Schnieder, 1996; and Wigal, Creer & Kotses, 1991)).

Research Question. In this secondary analysis, it was presumed that the MGS nursing intervention would have a significant effect on the level of self-efficacy for

patients to manage heart failure in general as evidenced by mean self-efficacy scores at 3-months and 6-months. The secondary analysis supported this assumption. This finding is upheld by King's and Bandura's work. According to King (1981) an individual has a right to participate in decisions that influence his or her life and health. The duty of health care providers is to share the needed information for patients to have informed decision about their health care (King, 1992). Bandura (1997) proposed that individuals would put forth the effort necessary to accomplish the goals that they have set for themselves. Additionally, Blair (1993) postulated that patients involved in selecting the treatment plan for their health care would become aware of their disease and become motivated to participate in goal attainment and self-management of their disease.

Hypothesis I. Hypothesis I indicated that there would be a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 3-months. The data did not support this hypothesis. A possible explanation for this finding was that more time might be needed to master new self-management skills, behaviors, and competencies. According to Bandura (1986) mastery is the strongest mode

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of self-efficacy enhancement. Mastery happens when people develop confidence in their ability to perform the skills and competencies necessary for them to perform self-management of their disease.

Hypothesis II. The analyses of Hypothesis II divulged a statistically significant difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 6-months (t=-2.12, df=36, p=.04). These findings suggest that the nursing intervention of MGS may enhance the level of self-efficacy of a patient to perform the needed task and behaviors to manage his or her disease in general. According to King (1981), the nurse/patient interaction leads to mutually set goals, the means to take actions to obtain goals, and these transactions can lead to goal attainment and improve the patient's health and quality of life. Frey and Sieloff (1995) described specific implementation of King's theory and demonstrated its link to research and practice. MGS might be the link to increase levels of self-efficacy to self-manage CHF at home.

It is possible that the difference in the levels of self-efficacy noted at 6-months could have affected the persistence with which the subjects tried to master the new tasks and behaviors, resulting in Hypothesis II being

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supported by this analysis. If these new behaviors and
tasks increase the patients' quality of life, it could
influence the effort that they exert on self-care in the
future.

Another possible contributing factor may have been
motivation. The MGS group at 6-months could have been more
highly motivated than the 3-month group. Bandura (1997)
proposed that people motivate themselves by forming beliefs
about what they can do, assuming likely outcomes, setting
goals, and planning the actions needed to reach the goals.

Findings in Relation to Previous Research

There were no studies found that utilized both King's
and Bandura's theories as a foundation for research
studies. This secondary analysis discovered a statistically
significant difference (p=.04) in the mean self-efficacy
scores, between the control group and the MGS group. This
study indicates the potential that MGS could provide higher
levels of self-efficacy for a patient to manage his or her
disease in general, hence the significance of the secondary
analysis and the need for it to be repeated to better
comprehend the level of self-efficacy that influences
health related behaviors.

Blair's (1995) study utilized MGS in a nursing home
setting, to increase residents' ability to perform the

activities of self-care. The study included three groups with one as a control group. The analysis of variance for mean goal attainment scores revealed a significant difference (df=76, MS=6539.00, F=34.52, p=.ooo). Turkey's post hoc comparisons indicated that statistically significant differences existed between the scores of subjects' between-groups conditions in groups 1 and 2, 2 and 3, and 1 and 3. The MGS group scored significantly higher in the goal of self-care improvement on the goal attainment scale than did the other two groups. This secondary analysis also suggested that the nursing intervention of MGS could enhance the level of self-efficacy and could cause improvement in self-care abilities.

Bandura (1995) proposed that self-efficacy makes a difference in how people think, feel, and act. Therefore, as the level of self-efficacy increases, the individual's motivation to perform self-management of his or her disease should be enhanced. Consequently affecting the persistence with which a person tries to master new and sometimes difficult tasks and behaviors to manage his or her disease.

This secondary analysis suggests that the nurse/patient interaction could lead to mutuality, goal setting, enhanced levels of self-efficacy, goal attainment, and improved

self-management of CHF. Self-management of CHF may lead to less serious complications and hospitalizations. King (1994) proposed that better self-management of chronic disease can lead to patient satisfaction.

Limitations

Limitations include the lack of research studies that contain both MGS nursing intervention and self-efficacy. Because the secondary analysis covered only a portion of the original data, it is unknown how this many have affected the statistical outcomes of this study. The small sample size could influence the results of the findings, and whether the findings represented the target population. The small sample size of the two groups also limited the statistical testing that could be performed. While many factors influence research outcomes, loss of subjects during a research study can result in altered research findings. This study was a longitudinal study that did experience loss of subjects, due to the age of the subjects, deteriorating health status, placement in nursing homes, and death. Attrition problems need to be anticipated and researchers should attempt to recruit subjects accordingly. The longitudinal aspect of the primary study caused an inability to obtain a larger sample population.

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Implications to Nursing

Heart failure (HF) is the single most frequent cause of hospitalization for people age 65 and older, and it claims the lives of over 200,000 people in the United States annually (Francher & Maretinez, 1999). According to American Heart Association 2000 Heart and Stroke Statistical Update, more than 2,600 Americans die of cardiovascular disease (CVD) everyday in the United States. These statistical results confirm that HF is a grave concern for all healthcare providers and institution that deliver care. This analysis suggested that the nursing intervention of MGS could lead to positive medical outcomes and a better quality of life for patients with CHF.

According to Kegal, (1995) patient education and follow-up care can make a significant difference in the patient's outcome, increase patient's knowledge of disease, increase his or her self-care abilities, and decreased readmission rate. Kegal also proposed that there is a relationship between the advanced practice nurses' provision of care and positive patient outcomes. The nursing intervention MGS can provide an approach for health care providers to assist patients with increasing their level of self-efficacy to perform tasks and skills to self-manage CHF.

Nurses can influence self-efficacy and self-care and decrease readmission of CHF patients by using nursing approaches such as MGS. King (1994) proposed that when nurses utilize the goal attainment theory, it could lead to effective care and improve patients' health and quality of life. Patients who are able to self-manage their disease may require fewer office visits and hospital readmissions, and the patient may have better outcomes and quality of life.

Recommendations for Future Research

Other studies have reported an association of self-efficacy, self-management skills (Bartholomew et al., 1993and Clark et al., 1994), goal attainment and health behavior (Hanna, 1993), but no studies were found that associated MGS with enhanced self-efficacy. This secondary analysis and the lack of other research reinforce the need for future studies involving both MGS and self-efficacy. Research is the stepping stone to best possible outcomes.

The subject's length of time diagnosed with HF varied from less than 1 year to greater than 5 years. It would prove interesting to see if patients' self-management of disease skills and tasks would be improved or decreased, if the subjects are newly diagnosed with HF. It is of great importance that they receive education to manage their

disease when first diagnosed. Learning and utilizing the appropriate self-care tasks and skills early on may equal the best possible outcomes.

<u>Summary</u>

The purpose of this research study was to evaluate the effect of the nursing intervention of MGS on the level of self-efficacy to manage CHF in general, while receiving home care. The secondary analysis supported Hypothesis II, which states that there is a difference in the mean self-efficacy scores between the control group and the mutual goal setting group as measured on post-test scores at 6 months. Future research may obtain information on a variety of nursing approaches that could be used during home care and in the hospital to enhance the level of self-efficacy. If self-efficacy levels are increased the patient may improve self-care and ways to control his or her disease at home. Enhanced feelings of self-care may lead to patient satisfaction. Future research and the need for the primary study to be replicated are definitely needed to better understand how much self-efficacy influences health-related behaviors. Research can provide guidance to enhance health care delivery of the future.
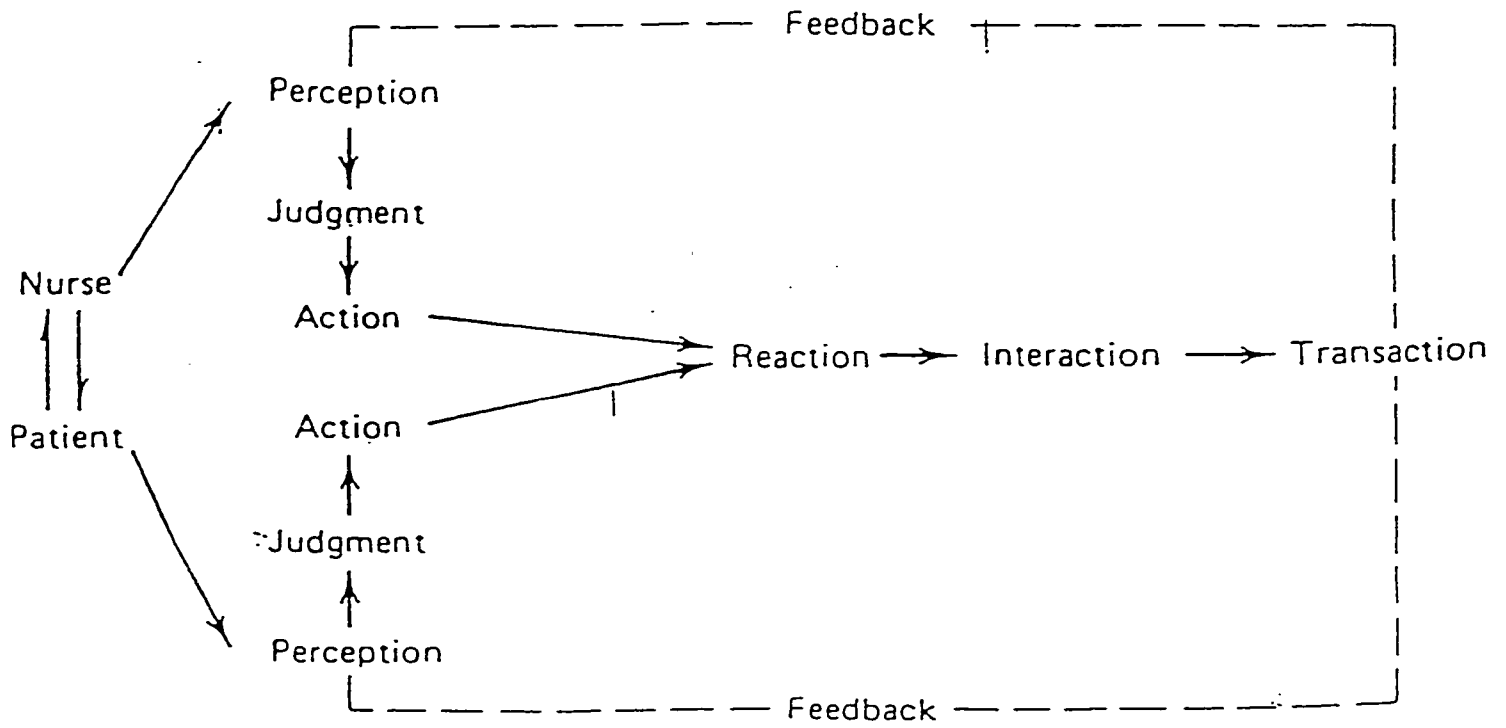
Appendix A

King's Open System Framework (Interacting System)
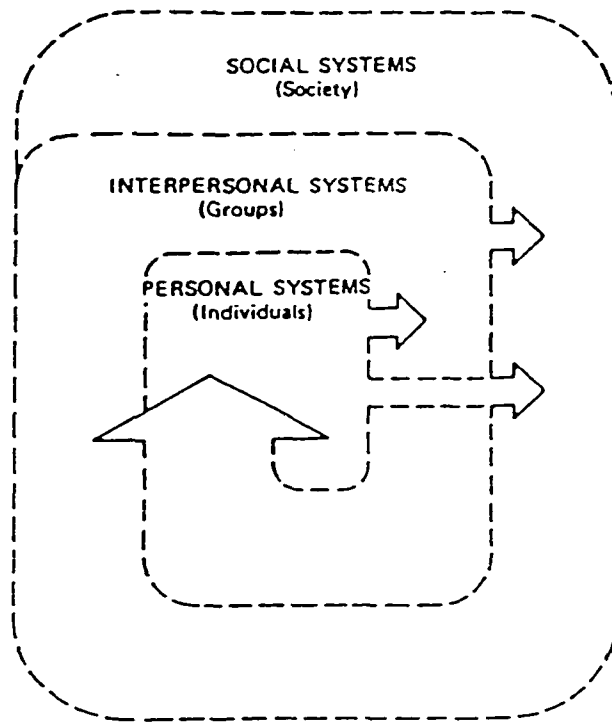
Appendix B

King's Model of Transaction (Transaction of Goal Attainment)

Appendix C

GRANDVALLEY STATE UNIVERSITY

I CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

January 12, 1999

Kay Setter Kline
222 HRY
Kirkhof School of Nursing

Dear Kay:

The Human Research Review Committee of Grand Valley State University is charged to examine proposals with respect to protection of human subjects. The Committee has considered your proposal, *"Home Care Outcomes for Heart Failure: A Test of Two Nursing Interventions"*, and is satisfied that you have complied with the intent of the regulations published in the Federal Register 46 (16): 8386-8392, January 26, 1981.

Sincerely,

Paul Huizenga, Chair
Human Research Review Committee

Appendix D

GRAND VALLEY STATE UNIVERSITY

I CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

March 20, 2001

Avis Rogers
13607 Elder Ave.
Grant, MI 49327

RE: Proposal #01-149-H

Dear Avis:

Your proposed project entitled **The Effect of Mutual Goal Setting on the Level of Self-efficacy for Patients with Congestive Heart Failure Receiving Home Care** has been reviewed. It has been approved as a study, which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

Paul A. Huizenga, Chair
Human Research Review Committee

Appendix E

Demographic Data
(To be collected at time of initial interview)

1.   Age _____

2.   Marital Status
        ____ Never Married
        ____ Married
        ____ Divorced
        ____ Widow/ Widower

3.   Employment Status
        ____ Employed (____ hours per week)
        ____ Unemployed

4.   Highest Level of Education
        ____ 1st – 7th grade
        ____ 8th – 10th grade
        ____ 11th – 12th grade
        ____ Associate's Degree
        ____ Bachelor's Degree
        ____ Master's Degree
        ____ Doctoral Degree

5.   Insurance Provider
        ____ Private Insurance (Name of Company)_____
        ____ HMO (Name of Group)_____
        ____ Medicare
        ____ Medicaid
        ____ Supplemental Insurance (Name of Company)_____
        ____ PPO (Preferred Provider Organization) _____
        ____ Other _____

6.   Health Care Provider (Who treats your heart failure?)
        ____ Family Practice Physician
        ____ Cardiologist
        ____ Internist
        ____ Nurse Practitioner
        ____ Physician Assistant
        ____ Other _____

7.   Annual Income in Dollars:
        ____ less than $10,000
        ____ $10,001 - $20,000
        ____ $20,001 - $30,000

    ____ $30,001 - $40,000
    ____ $40,001 - $50,000
    ____over $50,000

8.   How long have you had heart failure
    ____ less than 1 year
    ____ 1 – 2 years
    ____ 3 – 5 years
    ____ more than 5 years

9.   List current medical diagnoses.

_____

_____

_____

_____

Appendix F

Self-Efficacy to Manage Disease in General

We would like to know **how confident** you are in doing certain activities. For each of the following questions, please circle the number that corresponds to your confidence that you can do the tasks regularly at the present time. Having an illness often means doing different tasks and activities to manage your condition. How confident are you that you can:

1. Do all the things necessary to manage your condition on a regular basis?

Not Confident									Totally Confident
1	2	3	4	5	6	7	8	9	10

2. Judge when the changes in your illness mean you should visit a physician?

Not Confident									Totally Confident
1	2	3	4	5	6	7	8	9	10

3. Do the different tasks and activities needed to manage your health condition so as to reduce your need to see a physician?

Not Confident									Totally Confident
1	2	3	4	5	6	7	8	9	10

4. Reduce the emotional distress caused by your health condition so that it does not affect your everyday life?

Not Confident									Totally Confident
1	2	3	4	5	6	7	8	9	10

5. Do things other than just taking medication to reduce how much your illness affects your everyday life?

Not Confident									Totally Confident
1	2	3	4	5	6	7	8	9	10

Appendix G

Appendix G

Agency Script

We are fortunate to have our home care agency included in a nursing study that has been funded by the American Heart Association . The study will be conducted by Dr. Kay Kline, Professor of Nursing at Grand Valley State University. The purpose of the study is to improve the lives of persons with heart failure.

We would like you to consider participating in the study, but know that you cannot make a decision about participation without knowing more about the study. Can we have a registered nurse who is a graduate student at Grand Valley State University contact you to tell you more about the study?

Appendix H

Script to Obtain Consent

My name is _____. I am a registered nurse. I am taking classes at Grand Valley State University to obtain a masters degree in nursing. I have been given permission by your home care agency to come here today with your home care nurse, to determine if you are willing to let me explain a nursing research study that is being conducted with people like yourself, who have been diagnoses with heart failure and are receiving home care.

After your nurse has finished providing your care today, may I stay a few minutes to explain the nursing research study we are doing?

(If verbal permission is granted, proceed with explanation of study and obtaining informed consent after the home care nurse has left.)

Explanation of the Study

As nurses we are concerned with how people adjust to the medical diagnosis of heart failure. We want to find nursing approaches that will help you learn how to self-manage your heart failure. We believe that when you can self-manage your heart failure you will live a better life.

The study will consist of five (5) interviews of approximately 45 minutes duration, for the purpose of obtaining information about your heart failure. You will be given $10 at the completion of each of these five (5) interviews as compensation for your time. The interviews will be spaced three months apart, starting this week. If you agree to participate, you will be placed in one of three groups.

Each group will receive a different approach to managing health. Each of the nursing approaches will be provided in addition to the regular care you receive from your home care nurse, at no extra cost. Each nursing approach will be provided to you in weekly 30-minute visits by another graduate nursing student who will call you to make an appointment to come to your home. If you participate in the study, I will give you the names of the students who are participating in this study so you will recognize the name of the student who calls you. There will be a total of eight (8) weekly visits. Each visit will provide you with information about managing your health. All visits will be scheduled at your convenience, similar to your current home care visits. You will not be given compensation for these eight (8) weekly visits.

Your participation in this study will in no way affect the regular care you receive from your home care nurse, and it may help you improve your self-management of heart failure symptoms. The results of this nursing study may help nurses determine better ways to help other people with heart failure to improve their lives.

Because this is a nursing research study, I will maintain the confidentiality of the information obtained during the interview. Your name will not be identified with any of the information I collect. When reporting the results of the study, only group results will be shared; no names of individuals will be published. The nurses providing your home care will not be told that you are participating in the study.

Appendix I

.

Informed Consent

I _____ agree to participate in the nursing research study for persons with heart failure who are receiving home care. I understand that as a participant in this study:

- I will be interviewed five (5) times for approximately 45 minutes each time, once within this week and again at 3, 6, 9, and 12 months. I will be compensated $10 at the completion of each interview.

- I will receive information about managing my health and that this information will be delivered by a registered nurse who is a graduate nursing student at Grand Valley State University.

- I will receive this information once a week over the next eight (8) weeks and that each visit will last approximately 30 minutes. I will not be compensated for receiving this information.

- I will be able to withdraw from the study at any time by notifying Dr. Kay Setter Kline, the Principle Investigator, at 616-895-3517, and that my withdrawal will in no way affect the care I receive from the home care nurse.

- I understand that participation or lack of participation will have no impact on my insurance coverage or rates.

- I will not be identified by name with any of the information obtained and that any sharing of information obtained in this study will be in the form of group summaries of all participants.

- There is no identified risk from participating in this study and I may benefit from receiving information about ways to manage my health.

- If in the process of gathering information, any symptoms are identified that might need attention, the nurse gathering the information will refer me to either the home health agency or my health care provider.

- I also give permission for review of my health records to verify my health care status.

If I have any questions about the research study I may contact the Primary Investigator, Dr. Kay Setter Kline at 616-895-3517, or the Chair of the Research Review Committee, Paul Huizenga at 616-895-2472.

_____   _____
Signed   Date

_____   _____
Witness   Date

The names of the students who are participating in this study are: ___, ___, and ___.

Appendix J

Appendix J

arogers

From: Imogene M. King <imk@juno.com>
To: <arogers@i2k.com>
Sent: Tuesday, February 06, 2001 3:48 PM
Subject: Permission

I am sending you this permission to use my ideas in your thesis:

Permission is granted to use my General Systems Framework and my Transaction Process model in you thesis.

Imogene M. King, RN, EdD, FAAN

February 7, 2001

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