The Effect of Mutual Goal Setting on Understanding the Diagnosis of Heart Failure in Adults

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THE EFFECT OF MUTUAL GOAL SETTING
ON UNDERSTANDING THE DIAGNOSIS
OF HEART FAILURE IN ADULTS

By

Susan V. Watson, B.S.N., R.N.

A THESIS

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ABSTRACT

THE EFFECT OF MUTUAL GOAL SETTING
ON PERCEIVED UNDERSTANDING OF THE DIAGNOSIS
OF HEART FAILURE IN ADULTS

By

Susan V. Watson. B.S.N., R.N.

This secondary analysis examined the effect of mutual goal setting (MGS) on perceived understanding of the diagnosis of heart failure (HF). The conceptual framework for this study was King's theory of goal attainment. The sample consisted of clients with a diagnosis of HF from two Southwestern Michigan home care agencies. Subjects were randomly assigned to either a control group or intervention group and received eight weekly visits. Data were collected at baseline, 3 months, and 6 months using the general counseling section of the Self-Management Tool (Lorig et al., 1996). The secondary analysis sought to determine if MGS interventions improved perceived understanding of the diagnosis of HF. Although no significant difference was found at 3 months, there was a significant difference at 6 months (p = .04).
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CHAPTER 1
INTRODUCTION

Heart failure (HF) is a prominent health problem in the United States, with more than 400,000 new cases each year (Kosseim, Pifer, & Zimmer, 1999). As noted by Knox and Mischeke (1999), of the over 4.8 million Americans with HF, roughly half will require readmission to hospitals each year. Earlier discharges of patients with HF are occurring at a time when patients are requesting more information about their disease and are struggling with the expectation of living with a chronic disease (Pugh, Tringali, Boehmer et al., 1999). According to Wehby and Brenner (1999), learning to manage a chronic condition is the cornerstone of controlling HF and improving patient outcomes.

There is evidence that improving patients’ perceived understanding of their diagnosis can lead to improved outcomes, although the prevalence of readmissions related to HF remains significant (Pugh et al., 1999). Jenny (1987) proposes that measuring a patient’s knowledge or understanding can be done by focusing attention on outcome behaviors such as adherence to a regimen. In a recent study, Kamwendo, Hansson, and Hjerpe (1998) demonstrated a
correlation between the cardiac patient’s knowledge of their condition and adherence to lifestyle changes. In addition, there is evidence that patients’ lack of perceived understanding of their diagnosis of HF and accompanying symptoms can lead to increased exacerbations and symptom distress (Sulzbach-Hoke, Kagan, & Craig, 1997).

Although minimal research about the relationship between the diagnosis of HF and improved outcomes is available, King’s (1992) theory of goal attainment might be effective in examining this relationship. The theory provides a process for human interaction that leads to transaction and to goal attainment for individuals, families, and communities. Since nursing is concerned with the optimum health of patients, knowledge deficit related to the diagnosis of HF and its impact on patient’s self-management are of great importance. According to King (1996), the individual perceptions of the nurse and the patient influence the interaction process. As noted by Wehby and Brenner (1999), the perceived learning needs of patients with HF may be different than those identified by the registered nurse. King proposes that health professionals have a responsibility to help patients make informed decisions and give them correct information.

The availability of research specific to the impact of mutual goal setting (MGS) on the outcomes of HF is limited. Sulzbach-Hoke, Kagan and Craig (1997) studied the weighing
behavior and symptom distress of patients with HF. In cases where the patient was unable to verbalize an understanding of the relationship between daily weight and its impact on HF symptoms, the patient was less likely to continue weighing daily, and utilization of the health care system increased.

Several nurse researchers have studied HF in relation to improving post hospital outcomes (Barrelaa & Monica, 1998; Knox & Mischke, 1999; Stewart, Marley, & Horowitz, 1999). Barrelaa and Monica (1998) investigated the impact of managing HF via the home care nurse by instituting timely interventions based on the nursing assessment. Knox and Mischke (1999) studied the effect of disease management including specific education regarding the diagnosis and the subsequent impact on hospital length of stay (LOS) and cost. Stewart et al. (1999) studied the impact of home based educational interventions on readmissions and survival.

Many other studies have involved the concept of MGS and client education (Blair, 1995; Hutchinson & Quartaro, 1995; Mate-Kole, Danquah, Twum, & Danquah, 1999). Yet, the impact of MGS on the patient's perceived understanding of the diagnosis of HF has not been studied. If a relationship were found between MGS and the perceived understanding of the diagnosis, an additional nursing approach would be available for adults with HF to maintain and restore health. Additionally, the impact of improved self-management, could
result in improved outcomes and decreased health care utilization for patients with HF.

Statement of Purpose

The purpose of this study is to examine the effect of MGS as a nursing approach toward improving patient understanding of the diagnosis of HF. The study will include assessment of perceived understanding prior to mutual goal setting sessions, and at 3 and 6 months after the completion of education.
CHAPTER 2
CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The theoretical framework for this research study was based on Imogene King's theory of goal attainment (1981). Mutual goal setting was described as a nursing approach primarily through the work of King (1992). The inclusion of mutual goal setting as a nursing approach in dealing with patients with HF encourages the self-management of this chronic disease and allows patients to take control of their health. The focus of the literature review concerned mutual goal setting and the concept of perceived understanding of the diagnosis as it relates to the client with a chronic disease state.

Conceptual Framework

King's conceptual framework encompasses three open, dynamic, interacting systems. King (as cited in Tomey & Alligood, 1998), noted "this systems framework provides one approach to studying systems as a whole rather than isolated parts of a system" (p.302). The domain of nursing operates in all three systems (King, 1981). An underlying assumption of this general systems framework is that the focus of nursing is the care of human beings. King believes that
nursing phenomena are concerned with the health of individuals or personal systems, the health of groups or interpersonal systems, and the health of society or social systems.

As noted in Tomey and Alligood (1998), King derived the theory of goal attainment from her systems framework. Prior to the description and application of King's theory of goal attainment, it is necessary to define the concepts relevant to the topic of "perceived understanding of the diagnosis". These relevant concepts include role, perception, interaction, and transaction. The applicable underlying assumptions will be discussed with the related concepts.

Both the nurse and the patient have defined roles in the health care system. The first concept, role, is defined as "a set of behaviors expected when occupying a position in a social system" (King, as cited in Frey & Sieloff, 1995, p.312). King (1996) assumes that the focus of nursing is human beings that are interacting with their environment leading to health for individuals, which is the ability to function in social roles.

According to King (1996), the individual perceptions of the nurse and the patient influence the interaction process. As noted by Wehby and Brenner (1999), the perceived learning needs of patients with HF may be different than those identified by the registered nurse. King proposes that
health professionals have a responsibility to help patients make informed decisions and give them correct information. Individuals have the right to information about their health, and the right to accept or reject care. Therefore, the nurse and patient each have their perceptions which lead to judgements, then to actions, reactions, and finally to transactions. However, if perceptual agreement is not present between nurse and patient, then interaction and transaction will not occur (King, as cited in Tomey & Alligood, 1998).

Interactions are the acts of two or more persons in mutual presence. The process of interactions between two or more individuals represents a sequence of verbal and nonverbal behaviors that are goal directed (King, 1996). It is essential for the nurse to understand the ways in which human beings interact with their environment to maintain health. Further, King proposes that adjustments to life and health are influenced by an individual's interaction with the environment.

The concept of transaction includes a process of interaction in which human beings communicate with the environment to achieve goals that are valued. Therefore, transactions are goal-directed human behaviors. This concept forms the basis of King's goal attainment theory (1981). Nurse and client interactions are characterized by verbal and nonverbal communication in which information is both
exchanged and interpreted (King, 1981). The result of this exchange and interpretation is either further interaction or goal attainment.

King’s theory of goal attainment is an effective illustration of achievement of mutual goals and the resulting health outcomes. In order to achieve effective MGS, perceptual agreement which incorporates perception, judgement, action and shared reaction of nurse and patient is essential. As perceptual agreement implies, the nurse and patient must collaborate and agree upon mutual goals to achieve success. The patient with HF and the registered nurse, communicate their values, ideas, and attitudes in shared interaction (see Figure 1). It is during the interaction that the patient and the registered nurse “explore means to achieve goals” (King, 1992, p.22). The agreed upon goals or mutual goal setting lead to transactions— the patient’s and nurse’s behavior. In King’s own words, “Goal attainment represents outcomes and outcomes are a measure of effective nursing care” (King, 1997, p.15).

In summary, as noted by King (1981), when two persons come together in the roles of patient and nurse, each person perceives the other as making mental judgments and engaging in some kind of mental action. Therefore, as interaction occurs, transaction or goal directed human behaviors will result. If the process of interaction continues, the nurse and patient will identify their concerns and problems and
Figure 1.
Watson’s (2001) Research Application Model
set mutual goals (King, 1981). As a result of the process, both nurse and patient will exhibit behaviors that help move the patient toward goal attainment.

**Literature Review**

Multiple studies have been done to explore the concepts of understanding the patient's diagnosis and the intervention of MGS. However, there is limited research available to provide support for the use of MGS to enhance the patient's understanding of the diagnosis of HF in adults. As a result, two bodies of literature were reviewed to include both MGS and perceived understanding of the disease process as a method of increasing patients' confidence in their knowledge of heart failure.

**Mutual goal setting.** The concept of MGS was defined by Maves (1992) as “a process whereby nurses and patients collaboratively define a set of goals and agree on the goals to be attained” (p.352). The essential components of success in this model must involve accurate understanding and acceptance of goals between nurse and patient. Maves describes a process of negotiation between the patient and nurse as one of the important components of MGS. According to Lazare, Eisental, and Wasserman (1975), “negotiation is an inherent component of the nursing process and fosters a mutual relationship between the clinician and the patient to the benefit of both parties” (p.553).

Recently, the concept of mutual goal setting has
emerged in nursing as one of the interventions which changes the traditional nurse/patient relationship and places the patient in a consumer role rather than a passive participant. The primary study in the research base for MGS was by Hefferin (1979), which described the "effect on patients' health progress and care satisfactions of the use of the written health goals planning statement, as a nursing device to promote patient acceptance of responsibility for identifying and working toward health care treatment goals" (p.814). The main objectives of this quasi-experimental study were to explore the effects of goal setting on patient goal progress, as well as patient and nurse satisfaction.

The initial baseline phase for Hefferin's project involved the completion of a self-administered questionnaire to obtain attitudinal data on nurse/patient satisfaction with the care process from a pool of 604 patients and 137 professional nurses (Hefferin, 1979). The questionnaire used in the study assessed patient and nurse satisfaction with their care process.

In the second phase of the study, Hefferin (1979) included 572 new subjects from 14 veterans hospitals (none from the baseline survey), randomly assigned to experimental or non-experimental groups. The baseline data group was considered as a third group. A total of 95 nurses participated only in the baseline questionnaire while 50 nurses participated in the experimental group (42 from
baseline group). The nurses who participated in the experimental group (n= 50) attended a nurse training program regarding the use of goal setting in treatment plans with patients. Patient goal progress was measured by a modified version of Goal Attainment Scaling Guide. Patient satisfaction was measured through questionnaires regarding “their perceptions of the adequacy of health information received and of their involvement in the planning of their care” (p.817). The nursing satisfaction component was measured in terms of “their perceived opportunities to carry out selected patient-oriented nursing care activities” (p.817).

Hefferin (1979) found the mean difference in the total goal attainment scores for the three groups was significant at the .039 probability level (no statistical values or df were available for this study). Thus, the hypothesis was supported in that, “patients who participated in the written development of health goals with their nurses achieved higher mean scores than patients who did not develop goal statements” (p.818). The mean patient satisfaction scores were also higher for the experimental group as compared with the control (p=.04) and baseline group (p=.002). The mean nursing satisfaction scores were noted to be higher when nurses worked with the experimental patient group rather than the control (p=.0001) or baseline group (p=.0001).

Hefferin (1979) suggested that mutual goal setting
between the patient and the nurse was instrumental in achieving positive health goals. A limitation of the study was that only those units where nurses agreed to participate in the project were included. This resulted in variability among the patient populations and unit types.

Studies have examined the relationship between mutual goal setting and positive health behaviors (Blair, 1995; Collins, Mowbray, and Bybee, 1999). Blair (1995) conducted a study in three intermediate care nursing homes involving the effectiveness of three nursing approaches. The study involved 79 subjects randomly assigned to three groups. In Group 1, the nurses employed the nursing approach of MGS and behavior modification techniques. In Group 2, the nurses utilized MGS only, and in Group 3, routine nursing care was provided. Inservice training of staff in Groups 1 and 2 was provided, but not in Group 3.

Blair’s (1995) study was primarily interested in the ability of residents to increase self-care behaviors and to become less dependent on nursing staff. In Group 1, the staff met with residents to establish mutual goals and additionally reminded residents to perform daily self-care tasks. The main difference in the approach used in Group 2 was that residents were not reminded to perform their activities of daily living. The participants in Group 3 were treated to routine nursing care without MGS. A goal attainment scaling guide was used to measure the progress of
residents at baseline, and at 6, 8, and 16 weeks.

The results indicated at the eight-week evaluation that Group 1 achieved a goal attainment mean of 46.2 (SD 9.9) and scored significantly higher than Group 2 with a mean of 34.1 (SD 4.6), and Group 3 with a mean of 27.7 (SD 7.8). Further analysis of mean goal attainment scores revealed a significant overall difference between Group 1 when compared with Group 2 and Group 3 ($F[2,76]=34.52, p=.000$). The indication of these results was that MGS which incorporated behavior modification techniques for nursing home residents, produced a significant improvement in their self-care activities.

Collins, Mowbray, and Bybee (1999) investigated goal setting and behavior attainment in adults with psychiatric disabilities. The purpose of the study was to determine if an educational intervention would assist adults with psychiatric disabilities to engage in post secondary education as a result of establishing goals in this area. The sample consisted of 397 adults randomly assigned to 3 groups. The groups were established according to one of three conditions: classroom, group, and individual setting. Data were collected at five time frames: baseline, end of first term, end of second term, 6 months, and 12 months. The intervention to help clients set goals toward secondary education was provided in each of the three conditions. A significant association was found between stating school to
be one's most important goal at baseline and enrollment in school during the course of intervention (ZZ = 17.91, 
p<.0001).

Understanding the Diagnosis

As noted, HF remains a major cause of hospitalization for people over 65 years of age in the United States. Researchers have struggled to impact the financial and clinical outcomes for HF. According to Wehby and Brenner (1999), nearly half of the readmissions associated with HF are preventable. Recently a study by Ni et al. (1999) examined the factors influencing the adherence to self-care among patients with HF. The population consisted of 113 patients with 60% having New York Heart Association Class III or IV status of HF. All of the participants were from an academic medical center and were outpatients in a cardiac program.

The primary method of data collection was through a needs assessment survey conducted on admission to the program (Ni et al., 1999). A linear regression was carried out to determine the factors predictive of adherence behaviors. The results from multiple regression analysis indicated that “a higher knowledge score was associated with having received information and advice from health care providers, being a woman, and having been hospitalized within the past year” (p.6). The adherence score was significantly correlated with the knowledge score (r = .33,
One limitation of the study related to retaining information may be due to the severity of the illness as several patients were in terminal stages of HF.

Numerous other studies have examined the relationship between patient understanding of their disease process and positive health behaviors (Knox & Mischke, 1999; Lorig, 1993; Lorig, Gonzalez, Laurent, Morgan, & Laris, 1998). Lorig et al. (1998) examined the ability of patients with arthritis to self-manage their chronic illness after an educational program was instituted. The sample consisted of 175 subjects with chronic arthritis who responded to advertisements for the class in a large western city. The purpose of the two interventions was to provide one two-hour session weekly on the diagnosis and management of arthritis. One group participated in a three-week class and the other group participated in a six-week class.

Data were collected through use of the Health Assessment Questionnaire and Illness Intrusiveness Index (Lorig et al., 1998). The Illness Intrusiveness Index measures the impact of disease on daily activities. The six-week participants had significant improvement in multiple factors including fewer visits to physician ($t=-1.14$, $p<.05$). The Illness Intrusiveness Index improved in six-week participants ($t=-0.27$, $p<.05$) and no significant difference was found in three-week participants ($t=-0.1$). So, the educational impact was greater in the six-week program which
suggested an opportunity for future studies to examine the correlation between education and patient understanding of their disease process with health behavior changes.

Kamwendo, Hansson, and Hjerpe (1998) explored the concepts of patient knowledge and adherence to lifestyle recommendations in a cardiac rehabilitation program. The authors also examined the relationship between knowledge, adherence, and sense of coherence. The sample consisted of 79 subjects who had completed a cardiac rehabilitation program at a Swedish university hospital two years prior to the survey. The concept of knowledge was investigated by having participants complete a true/false survey of 13 statements regarding understanding their disease process. An eight-question section was administered to determine adherence to lifestyle changes and a 13-item Sense of Coherence Scale was included. All of the questions were elicited from information provided by rehabilitation nurses to patients during their program.

Kamwendo et al.,(1998) found that a majority of subjects showed a high degree of understanding; 85% were able to respond correctly to at least 77% of the statements, and 89% had changed at least one behavior. The pre and post adherence scores were statistically relevant for an increase in number of desirable behaviors (Z= 6.24, p<.0001). However, no significant correlation was found between knowledge, sense of coherence, and adherence to regimen. The
limitations of this study include: (a) the validity of self-reported data, (b) the population which could represent a familiarity with cardiac information on entry to the program, and (c) the ability for patients to accurately recall behavior from two years previous. Further study is needed to establish a relationship between understanding of diagnosis and positive health behaviors.

Although minimal research is available regarding the effect of home-based interventions on the outcomes of patients with HF, one study by Stewart, Marley, and Horowitz (1999) demonstrates positive results. The study examined the differences between a group of patients with HF receiving usual home care and a group receiving multidisciplinary home-based intervention. During this home-based intervention visit, a cardiac nurse performed a physical examination, and in addition, assessed the patient's understanding of disease process including the ability to recognize symptoms indicative of worsening HF. During the home visit, identified changes in health status were reported to the physician. Remedial education was also offered if indicated. Results of the study indicated that during the six month follow-up more participants from the intervention group remained event free than the usual care group (51 vs 38, p=.04) (Stewart et al., 1999).

Other researchers have also proposed that improved patient understanding of HF as a disease process may improve
outcomes. Moser and Riegel (2001) suggest that "non-pharmacologic, noninvasive therapies appear to hold the most promise for improving quality of life in persons with HF and improving rehospitalization rates" (p.345). One such therapy includes education of patient and family in understanding the diagnosis of HF. As noted by the authors, "patient and family education is the cornerstone of nonpharmacologic therapy" (p.347).

Summary

The impact of HF on the healthcare system remains a significant problem within the United States (Wehby & Brenner, 1999). This fact alone necessitates new and improved nursing approaches to improve the quality of life for HF patients. Numerous studies have examined the effect of mutual goal setting as a method of achieving positive outcomes in chronic illness (Blair, 1995; Collins, Mowbray, & Bybee, 1999; Hefferin, 1979; Strecher, Seijts, Kok et al., 1995). While many studies only reported probability values without corresponding statistical values, the overwhelming conclusion was that mutual goal setting had a positive effect on health behaviors.

Additionally, the concept of understanding diagnosis and increased patient knowledge of the disease process can lead to improved goal attainment (Maves, 1992; Ventura, Young, Feldman, Pastore, Pikula, and Yates, 1983). As noted by King (1981), the nurse-patient system must include the
belief that individuals have a right to have knowledge about
themselves and their health status. Finally, the patient
with an increased understanding of a chronic disease state
will have improved outcomes (Woods, 1994).

Research Question

Does participation in mutual goal setting affect the
understanding of the diagnosis of HF in adults?

Hypothesis I

There is a difference in perceived understanding of
the diagnosis of HF, between the control group and the
mutual goal setting group as measured on post-test scores at
three months.

Hypothesis II

There is a difference in perceived understanding of
the diagnosis of HF, between the control group and the
mutual goal setting group as measured on post-test scores at
six months.

Definition of Terms

1. Mutual goal setting refers to the nursing process
of assessing patient values and identifying mutual goals in
order to promote, maintain and restore health.

2. The concept of perceived understanding of the
diagnosis will be defined as acquired knowledge which can be
measured by how confident patients believe they are in their
ability to manage a disease process.

3. Congestive heart failure will be defined for this
study as condition present in those adults admitted to the home care agencies with an ICD-9 code of 428 (CHF).
CHAPTER 3
METHODS

Design

According to Polit and Hungler (1995) secondary analysis involves the use of data gathered in a previous study to test new hypotheses or explore new relationships. The secondary study was derived from data gathered in a larger primary study conducted by Principal Investigator Kay Setter-Kline, RN, Ph.D., Professor at Grand Valley State University. The research purpose of Kline and colleagues was to measure the impact of two different nursing approaches for self-management of heart failure in persons receiving home care. The study was a blind, experimental design involving the random assignment of subjects to three groups which included a supportive educative group, a mutual goal setting group, and a control group.

In the primary study, patients with HF who were part of a population serviced by two home care agencies in southwestern Michigan, were randomly assigned to three groups. The three groups included a control group and two intervention groups. The control group received usual care by the home health agency, and health promotion information
from the nursing approach providers. The MGS intervention group received usual care by the home health agency and a nursing approach based on mutual goal setting. The supportive-educative group received usual care and supportive education that guided, supported and taught the client in the self-management of HF. The initial randomization was accomplished through a chart of random numbers assigned by the Principal Investigator.

In the primary study, one of the main threats to internal validity was mortality. The study was longitudinal, and the sample consisted of patients with advanced chronic congestive heart failure, thus the sample’s health status was fragile. Therefore, attrition was a definite possibility due to ill health, disability, or even death. The randomization of subjects equalized the mortality threat among the groups.

The secondary study focused on a group comparison involving two groups, the control and MGS groups. The secondary study comparison included baseline, 90 day, and 6 months general counseling scores from both the control group and the mutual goal setting intervention group. A limitation of the use of secondary analysis can involve data sets that are deficient or problematic, since the researcher was not involved in designing the original study. The threats to internal and external validity were unchanged from the primary study.
Sample

The subjects in the primary study sample consisted of persons under the care of two home health agencies in southwest Michigan. The subjects were part of a convenience sample and they had HF as their primary diagnosis for admission to the home health agency. The primary study sample consisted of 86 subjects, although the initial goal was to include 186 participants. The subjects met a set of inclusion criteria as follows:

1. Must be over 18 years of age
2. Must be able to give informed consent
3. Must speak and understand English
4. Must have heart failure as primary diagnosis
5. Must be a home health care client

The secondary study sample consisted of two groups with a total of 54 subjects. This number included 31 subjects in control group and 23 subjects in the intervention group. The goal was to include 31 subjects in both groups. The data at 3 months included 27 subjects for the control group and 15 subjects for the MGS group. The 6-month data consisted of a control group of 23 subjects and a MGS group of 15 subjects. The decrease in sample size was due to advanced disease symptoms and in some cases, death.

Instrument

Baseline data for the primary study were collected prior to randomization to the control, supportive educative
intervention, or mutual goal setting intervention groups. Demographic data for all three groups were collected using one data collection tool (Appendix A). Data were again collected at 3, 6, 9, and 12 months after completion of interventions. The tool used to measure confidence in understanding the diagnosis of HF was in the public domain and copyright permission was not required. The specific instrument was part of the Self-management Tool (SMT) and included 13 self-reported questions. The SMT general counseling section included a Likert-type scale with one being not confident and 10 being totally confident.

The SMT was developed to measure indicators related to chronic disease self-management in patients with arthritis (Lorig et al., 1996). Lorig et al. (1996) conducted tests for convergent and discriminate validity. They established the reliability of the self-management behavior measures through the use of test-retest and alpha co-efficients. The test-retest reliability coefficients ranged from .56 to .92. The range of internal consistency coefficients was .70 to .75. All the items in the self-management general counseling section were developed by the primary study's principal investigator based on AHCPR guidelines.

The secondary study used the first ten questions of the general counseling section (Appendix B). The general counseling section included questions related to how confident a patient was in understanding information about
the diagnosis of heart failure. Reliability coefficients for this secondary analysis were calculated on the SMT general counseling section at baseline with a Cronbach alpha of .82 obtained. Reliability coefficients of .70 or greater are considered sufficient to make group comparisons (Polit & Hungler, 1995).

Procedure

In the primary study, the procedure for entry into the study was established. Initially, the subjects were recruited from a list of clients admitted to the home care agencies with an ICD-9 code of 428 (CHF). Once the potential subjects were identified, the home care agency care manager introduced the study to the client using the script provided for the study (Appendix C). After obtaining verbal consent, a data collection nurse (graduate nursing student) visited the client and explained the study, obtained an informed consent, and collected baseline data (Appendix D). The Principal Investigator (Setter-Kline) randomly assigned participants to intervention groups.

Nursing approach providers, (graduate nursing students), scheduled visits with the client. The visits took place once a week for eight weeks. The control group received education regarding health maintenance and health promotion such as foot care and depression. The supportive-educative group received usual care, and a supportive-educative approach based on recommendations made by the
Agency for Health Care Policy and Research (AHCPR) heart failure guidelines (Konstam, Dracup, Baker et al., 1994).

The MGS intervention group established individual mutual goals as described by King (1981). The process of collaborating toward mutual goal setting was guided by using the Goal Attainment Follow-up Guide (Garwick, 1976). All clients who participated in the study received usual care as provided by the agency. The home care agency visit and the nursing approach provider visit did not coincide in order to preserve the integrity of the study.
CHAPTER 4

RESULTS

The purpose of this study was to examine the effect of mutual goal setting (MGS) as a nursing approach toward improving patients' understanding of the diagnosis of heart failure (HF). The secondary analysis of data measured the difference in the mean scores of the general counseling section between the control and MGS groups at baseline, 3, and 6 months. The secondary analysis data were extrapolated from the Kline study. The Statistical Package for the Social Sciences (SPSS) was used for data analysis. The level of significance for all tests was set at $p < .05$.

Descriptive statistics were used to describe the sample. Demographic data included frequency distributions and percentages with means and standard deviations for age. The variables of interest were the perceived understanding of the diagnosis of HF and the difference in measurement between two groups. Although an analysis of covariance was the preferred statistical method to test the research hypotheses, it was not used due to the small sample size. Instead, an independent t-test was used to compare the difference in the mean scores between the control and MGS
groups at baseline, 3, and 6 months. The Paired t-tests were used to determine if a significant difference existed between baseline to 3 months, baseline to 6 months, and 3 months to 6 months in both groups.

Sample Characteristics

Demographic data from both groups were initially compared to assess for characteristics that could affect the individuals’ understanding of their diagnosis of HF. Specific characteristics evaluated included age, highest level of education, and the length of time the subject had been diagnosed with HF. The age of the control group ranged from 56-94, with a mean of 75.68 (SD 9.96) and the age range of the MGS group was from 61-90, with a mean of 76.65 (SD 8.91). A t-test determined that there were no significant differences between the two groups in regards to age (t=-.372, df= 52, p=.712).

Based on the distribution of the responses, the categories for “highest level of education” were collapsed from seven to three categories: tenth grade or less, eleventh and twelfth grades, and college level (including associates, baccalaureate, masters, and doctorate degrees). In the combined groups, the majority (n=32, 59.3%) had completed the eleventh or twelfth grade. A chi-square test found no significant difference in the demographic data related to highest level of education and length of time with a diagnosis of HF, between the two groups. Demographic
data that were utilized for the two groups are summarized in Table 1.

Table 1
Sample Demographics (n=54)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Control (n=31)</th>
<th>MGS (n=23)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#  %</td>
<td>#  %</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th grade or less</td>
<td>8 25.8%</td>
<td>6 26.1%</td>
</tr>
<tr>
<td>11th - 12th grade</td>
<td>19 61.3%</td>
<td>13 56.5%</td>
</tr>
<tr>
<td>College Degree</td>
<td>4 12.9%</td>
<td>4 17.4%</td>
</tr>
<tr>
<td>Time Diagnosed with HF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than one year</td>
<td>10 32.3%</td>
<td>12 52.2%</td>
</tr>
<tr>
<td>1-2 years</td>
<td>5 16.1%</td>
<td>1 4.3%</td>
</tr>
<tr>
<td>3-5 years</td>
<td>6 19.4%</td>
<td>3 13.0%</td>
</tr>
<tr>
<td>Greater than 5 years</td>
<td>10 32.3%</td>
<td>7 30.4%</td>
</tr>
</tbody>
</table>

Note: MGS=Mutual Goal Setting Group
Data Analysis

Research question. Data were analyzed in order to answer the research question, “Does participation in MGS affect the perceived understanding of the diagnosis of HF in adults?” In order to answer this question, it was first necessary to determine if there were any differences between the groups at baseline. An independent t-test was used to determine if there was a significant difference in the mean scores between the control group and the group receiving the MGS intervention, at baseline, 3 and 6 months (see Table 2). The mean scores at baseline for the control group (M=74.94, SD 15.15) were slightly lower than the baseline scores for the MGS group (M=78.61, SD 15.29). However, the t-test did not show a significant difference between the two groups at baseline.

Hypothesis I. “There is a difference in the mean total scores of the general counseling questions related to perceived understanding of the diagnosis of HF between the control group and the MGS group as measured on post-test scores at 3 months.” The mean MGS scores at 3 months show an increase in the scores for perceived understanding of the diagnosis (M=86.07, SD 10.48) over the mean control group scores (M=82.59, SD 11.58), but the t-test found no significant difference between the two groups (t=-.963, df=40, p=.342 ). Therefore, the hypothesis was not supported.
Hypothesis II. "There is a difference in the mean total scores of the general counseling questions related to the perceived understanding of the diagnosis of HF between the control group and MGS group as measured on post-test scores at 6 months." Analysis reveals that the mean scores for control group (M=78.57, SD 12.17) decreased, while the mean scores for perceived understanding of the diagnosis of HF at 6 months for the MGS group (M=89.13, SD 10.98) increased. A t-test identified a statistically significant difference between these two groups (t=-2.72, df=36, p=.01) supporting the hypothesis. Table 2 summarizes the results of the t-tests for the MGS group and control group at baseline, 3 and 6 months.

Table 2

Comparison of MGS and Control Groups "Understanding" Scores

<table>
<thead>
<tr>
<th>Time</th>
<th>Control M</th>
<th>Control SD</th>
<th>MGS M</th>
<th>MGS SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>74.94</td>
<td>15.15</td>
<td>78.61</td>
<td>15.29</td>
<td>-0.878</td>
<td>52</td>
<td>.384</td>
</tr>
<tr>
<td>3 month</td>
<td>82.59</td>
<td>11.58</td>
<td>86.07</td>
<td>10.48</td>
<td>-0.963</td>
<td>40</td>
<td>.342</td>
</tr>
<tr>
<td>6 month</td>
<td>79.57</td>
<td>12.17</td>
<td>89.13</td>
<td>10.98</td>
<td>-2.716</td>
<td>36</td>
<td>.010</td>
</tr>
</tbody>
</table>

Note: MGS=Mutual Goal Setting Group
Findings of Interest

Additionally, a Paired t-test was utilized to examine the change from baseline to 3-month scores, baseline to 6-month scores, and 3-month to 6-month scores within both the control and MGS groups (Tables 3&4). The control group results identified a significant increase in understanding between the baseline to 3-month scores ($t=-2.16$, df=26, $p=.04$). Yet, the evaluation of the baseline to 6-month scores and the 3-month to 6-month scores indicate no significant differences in understanding the diagnosis of HF. In contrast, the MGS group baseline to 3-month scores showed no significant difference ($t=-1.75$, df=14, $p=.102$). However, both the baseline to 6-month scores ($t=-2.27$, df=14, $p=.04$) and the 3-month to 6-month scores ($t=-2.34$, df=10, $p=.042$) of the MGS group, demonstrate a statistically significant increase in the understanding of diagnosis of HF within the MGS group.
Table 3
Paired t-test Results within Control Group

<table>
<thead>
<tr>
<th>Time Intervals</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>75.04</td>
<td>16.02</td>
<td>-2.16</td>
<td>26</td>
<td>.040</td>
</tr>
<tr>
<td>3 month</td>
<td>82.59</td>
<td>11.58</td>
<td>-2.16</td>
<td>11.58</td>
<td>.040</td>
</tr>
<tr>
<td>Baseline</td>
<td>73.70</td>
<td>14.41</td>
<td>-1.29</td>
<td>22</td>
<td>.212</td>
</tr>
<tr>
<td>6 month</td>
<td>78.57</td>
<td>12.17</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>3 month</td>
<td>80.55</td>
<td>11.66</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>6 month</td>
<td>79.64</td>
<td>11.29</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
</tbody>
</table>

Table 4
Paired t-test Results within MGS Group

<table>
<thead>
<tr>
<th>Time Intervals</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>77.93</td>
<td>13.32</td>
<td>-1.75</td>
<td>14</td>
<td>.102</td>
</tr>
<tr>
<td>3 month</td>
<td>86.07</td>
<td>10.48</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>Baseline</td>
<td>78.67</td>
<td>12.25</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>6 month</td>
<td>89.13</td>
<td>10.98</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>3 month</td>
<td>87.36</td>
<td>10.39</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
<tr>
<td>6 month</td>
<td>91.91</td>
<td>7.25</td>
<td>.83</td>
<td>21</td>
<td>.415</td>
</tr>
</tbody>
</table>

Note: MGS=Mutual Goal Setting
Chapter 5
DISCUSSION AND IMPLICATIONS

Discussion

According to King (1981), when two people come together as patient and nurse, interactions occur, information is shared, and mutual goals are set. Factors that lead to transactions in the nurse-patient relationship are perceptual agreement, including shared perception, judgement and decision to take action. As a result of the process, interactions assist the nurse and patient to agree on goals which lead to transactions or goal directed behaviors.

This secondary analysis found an increase in the perceived understanding of the diagnosis of heart failure (HF) in the MGS group. This finding is supported by Hefferin (1979) who found higher scores between MGS and patients’ health progress. Support can also be found in the study by Ni et al. (1999), which found a higher knowledge score was predictive of improved self-care behaviors in patients with HF.

Research Question. In this analysis, it was questioned whether MGS as a nursing intervention would have an effect on the patient’s perceived understanding of the diagnosis of
HF as evidenced by mean scores on the general counseling questions on post-test scores at 3 months and 6 months. The results of this analysis indicated that MGS improves patient understanding of the diagnosis of HF. These findings are in agreement with the study by Hefferin (1979) where patients with written health goals achieved higher mean health behavior scores than patients who did not develop goal statements. Blair (1995) demonstrated similar results in his analysis of the relationship between MGS and increased self-care behaviors in nursing home residents. Also, the secondary analysis demonstrated that at baseline, no significant differences were found between the groups. Hence, the differences that were found may not be related to differences between the groups.

Hypothesis I. A difference was predicted to exist between the mean total scores of the general counseling section related to perceived understanding of the diagnosis of HF at 3 months. Both groups showed an increase in understanding their diagnosis at 3 months. It is interesting to note that no significant difference was detected at this time even though the MGS group received the nursing intervention. A possible explanation of this finding may relate to the time required to establish behaviors in conjunction with goals which could result in lower initial understanding mean scores for the MGS group. Another possible contributing variable may have been severity of
condition, which was not included in the study. If the intervention group experienced a higher level of severity and symptoms than the control group, this could impact retention of information. Ni et al. (1999) found that New York Heart Association class III and IV patients in their study demonstrated increased severity which affected the outcomes.

**Hypothesis II.** Data analysis of the second hypothesis revealed a statistically significant difference in the mean scores of the general counseling section related to understanding diagnosis of HF between the control and MGS group at 6 months \((t=-2.72, df=36, p=.01)\). It is possible that MGS participants developed increased understanding of the diagnosis of HF over a longer time frame with better retention related to their participation in MGS. This finding correlates with the study by Lorig et al. (1998), where the impact of education on arthritis patients' ability to self manage disease was found to be significantly higher in six-week participants over three-week participants. Additionally, Blair (1995) found in comparing three nursing approaches that MGS scored significantly different over time, in comparison with non MGS intervention groups.

It is interesting to note that the analysis demonstrated a statistically significant increase within the control group between baseline to 3 months \((t=-2.16, df=26, p=.04)\). However, the control group scores for baseline to 6
months and 3 months to 6 months scores indicated a decrease in perceived understanding of HF. The control group’s initial increase in perceived understanding of HF may be related to the routine care given by the home health nurse. The members of the control group may have had a better relationship with their home health nurse and felt free to inquire about their diagnosis. This would account for the increased perceived understanding from baseline to 3-months. Therefore, when the home visits ceased, the re-enforcement was gone, and the perceived understanding of HF scores may have decreased.

Another interesting outcome is that the MGS group did not show a significant difference in understanding HF between baseline to 3 months ($t=-1.75, df=14, p=.102$). Yet, the MGS scores between baseline to 6 months ($t=-2.27, df=14, p=.04$) and 3 month to 6 months ($t=-2.34, df=10, p=.042$) demonstrated a statistically significant increase in perceived understanding of the diagnosis. One explanation for this might be that over time the use of MGS as a nursing intervention increases the patients’ perceived understanding of the diagnosis of HF. Another explanation may be that patients involved in MGS may take ownership of their disease by identifying personal health goals and taking control of their own destiny. King (1996) noted, “when clients and nurses participate in MGS, in most situations, movement toward goal attainment is achieved. When goals are attained,
growth and development, satisfaction, and effective nursing care occur" (p.68).

Limitations of the Study

One of the major limitations relates to the small sample size of the study. In order to use ANCOVA data analysis, a larger sample size would be required. In addition, the smaller sample size limits the generalization to a larger population.

Another limitation of the study relates to the newness of the general counseling tool. Lorig et al. (1996) established the self-management behavior measures through test-retest. The SMT was used for the first time in the primary study and the reliability of the tool (SMT) was established at baseline with a Cronbach alpha of .82. The general counseling section of the tool had been developed for the primary study, thus establishment of reliability will be needed.

The frail health and potential for mortality is another limitation of the sample. Loss of subjects in the primary study occurred due to death, placement in nursing homes and decline in condition. As previously mentioned, one way to possibly limit the loss of subjects could be to do an initial screening with severity classifications.

Implications for Nursing Practice

Recently, the state and federal government have focused on the patient as consumer along with individual rights.
including information on disease management and quality of care. Heart failure continues to represent a major component of health care resource usage in the United States with over 4.8 million people affected at an estimated cost of $20 billion (Knox & Mischeke, 1999). Although many new medications have been developed to treat HF, nursing interventions such as MGS can also improve outcomes by improving patients' ability to self-manage their disease. This analysis suggests that goal attainment leads to positive outcomes and an opportunity for early interventions, which may lead to a decrease in serious complications.

Nurses need to utilize interventions such as MGS as a method of assisting patients with HF to improve their understanding of HF and therefore self-management of this chronic disease. Studies indicate that improved understanding of diagnosis increases healthy behaviors such as adherence to weighing routines (Sulzbach-Hoke et al., 1997) and adherence to lifestyle changes (Kamwendo et al., 1998). Nurses play an essential role in assisting patients with HF to increase their understanding of the diagnosis and to practice early recognition and management of the disease through MGS. Nursing educators should consider the addition of MGS to the curriculum in order to offer another approach for students to improve patient outcomes. Additionally, administrators need to support the use of MGS in health care
agencies, knowing that it is an investment in health care which may represent benefits over time and decrease cost in acute care settings.

**Recommendations for Further Research**

Additional research participants are recommended to increase the size of the sample to allow for generalization of results. The limited sample size affected the amount of data available for analysis. It is conceivable that initiating a study when patients are first diagnosed with HF might increase retention of subjects.

The concepts of perceived understanding of the diagnosis and positive health outcomes continue to offer an opportunity for further research. As multiple studies indicate, a relationship between knowledge and outcome may exist (Stewart, Marley & Horowitz, 1999; Sulzbach-Hoke, Kagan & Craig, 1997; Kamwendo, Hansson & Hjerke, 1998). The Self-Management Tool could be used in further studies to evaluate the concept of perceived understanding of the diagnosis before and after nursing intervention. The relationship between perceived understanding and MGS requires further research in the context of outcomes such as decreased re-admissions and complications for patients with HF. Additionally a system of classifying severity of HF such as the New York Heart Classification System, may provide more information about the composition of the groups and the impact severity has on participants.
Summary

The purpose of this study was to examine the effect of MGS as a nursing approach toward improving patients’ perceived understanding of the diagnosis of HF. The results of the secondary analysis imply that MGS may increase awareness and perceived understanding of HF and thus encourage improved self-management and/or goal attainment. Further research may offer validation for nurses to continue to utilize MGS as an intervention to improve chronic disease management. At a minimum, the results provide a basis for discussion for effectively increasing perceived understanding of the diagnosis and potentially increasing positive health behaviors.
Appendix A

Demographic Data
Appendix A

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 B

General Counseling Section
**SELF-MANAGEMENT TOOL**  
**GENERAL COUNSELING**

How confident are you that you understand the following information? (Circle ONE number for each)

<table>
<thead>
<tr>
<th></th>
<th>Not Confident</th>
<th>Totally Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What heart failure is.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>2. The reason for symptoms.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>3. What caused your heart failure.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>4. What symptoms you can expect.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>5. Which symptoms indicate a worsening situation.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>6. What to do if you have any of these symptoms.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>7. Self-monitoring with daily weights.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>8. The treatment/care plan.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>9. Your responsibilities for self-management.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>10. The importance of not using tobacco.</td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>
Appendix C

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 D

Script to Obtain Consent

Explanation of Study

Informed Consent
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 diagnosed 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.

09/20/99
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 E

Human Research Review Committee
March 20, 2001

Susan Watson
7280 South Garden Ct.
Jenison, MI 49428

RE: Proposal #01-148-H

Dear Susan:

Your proposed project entitled The Effect of Mutual Goal Setting on Understanding the Diagnosis of Heart Failure in Adults 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,

[Redacted]

Paul A. Huizenga, Chair
Human Research Review Committee
REFERENCES
LIST OF REFERENCES


