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Patients and Nurses' Perceptions of the Cardiac Patient's Learning Needs

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PATIENTS AND NURSES’ PERCEPTIONS OF THE CARDIAC PATIENT’S
LEARNING NEEDS

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ABSTRACT

Coronary heart disease is the single leading cause of death in the United States. According to the American Heart Association, cardiovascular diseases are responsible for the lives of 41.4% of more than 2.3 million Americans who die each year. Coronary Artery Bypass Graft (CABG) is an operation performed on individuals that have extensive blockage of their coronary arteries as a result of CAD. Although CABG restores health to the heart, arteries can again become occluded if lifestyle changes are not made. After CABG, a part of disease management by the healthcare professional is educating the patient regarding signs and symptoms of heart disease, appropriate methods for diagnosis and treatment, and any modifications that must be made in the patient’s lifestyle.

Before effective teaching can begin, healthcare providers must first assess the educational needs and learning styles of the patient. Patients’ perceptions of that which is important information may be different from that of the healthcare members providing the education. Without proper assessment of the desired educational needs of the patient, information given to the patient by the healthcare provider may be disregarded. The purpose of this study was to compare the perceptions of cardiac patients with those of cardiac nurses concerning the patient educational needs for maintaining a healthy heart.

A nonprobablility convenience sample of 40 participants was obtained from a private, community hospital in the North Florida region. Eighteen nurses employed in the Progressive Care Unit and 20 patients who had a CABG performed within the hospital were used in the study. Data was obtained with the use of demographic forms for both the nurses and patients and The Cardiac Patient Learning Needs Inventory tool.

The overall findings, consistent with previous studies, indicated that the areas of medication information were important to both the patients and nurses. There was a statistically significant difference between the nurses’ gender and the ranking of anatomy and physiology, psychological issues, medication information, physical activity, and other information. That meant that the female nurses rated the above categories as more important than the male nurses.
A statistically significant difference was also evident between the nurses’ degree related to psychological factors and physical activity. The data showed that the nurses with a BSN degree rated psychological factors and physical activity as more important than those nurses without a BSN. The only significant difference found between the patients’ demographic variables and the seven subscales of the CPLNI was in patients with Diabetes Mellitus, who ranked risk factors as most important.

From the data analysis, patients and nurses perceive the same areas as important and not important, which are consistent with previous studies implementing the CPLNI. There is still a need for researching the differences in the nurses’ gender and perception of patients’ educational needs as well as research focusing on the differences in nurses’ educational background and their perceptions of patients’ educational needs. Continued research on identifying patients’ educational needs will benefit the patient by providing the patient with information that he or she deems important.
CHAPTER ONE
INTRODUCTION

Coronary heart disease is the single leading cause of death in the United States. According to the American Heart Association, cardiovascular diseases are responsible for the lives of 41.4% of more than 2.3 million Americans who die each year. Nearly 59 million Americans have some form of cardiovascular disease, ranging from congenital heart defects to high blood pressure and atherosclerosis. Coronary Heart Disease, also known as Coronary Artery Disease (CAD), results from atherosclerotic lesions located within the coronary arteries leading to narrowing and obstruction of those arteries. Wung (2002) defined this process: “the artery contains this atherosclerotic lesion, which is an accumulation of lipoprotein particles in the intima of the coronary artery and evolves into a fibrous plaque containing smooth muscle, lipid, and fibrous tissue” (pp. 297). This process may take several years to develop and most often is diagnosed only when clinical symptoms appear. This process of accumulation progresses until the artery is obstructed, thus, decreasing or eliminating the blood supply. When the cardiac muscles do not receive an adequate amount of blood flow, anaerobic metabolism occurs and lactic acid is produced causing pain, angina, decreased efficiency of the heart muscle, and eventually muscle death (Dunphy & Winland-Brown, 2001). Coronary Artery Bypass Graft (CABG) is an operation performed on individuals that have extensive blockage of their coronary arteries as a result of CAD. CABG utilizes other vessels in the body, typically veins in the arms and legs, to replace clogged coronary arteries and restore blood flow to the cardiac muscle.

Although CABG restores health to the heart, arteries can again become occluded if lifestyle changes are not made. After CABG, a part of disease management by the healthcare professional is educating the patient regarding signs and symptoms of heart disease, appropriate methods for diagnosis and treatment, and any modifications that must be made in the patient’s lifestyle. Modifications addressing a decrease of dietary fat intake, cessation of smoking, decrease in alcohol consumption, and increase in activity, will decrease the risk for further development of CAD (Wung, 2002).
Statement of Problem

Before effective teaching can begin, healthcare providers must first assess the educational needs and learning styles of the patient. Decreased hospitalization contributes to patients feeling overwhelmed by the vast amount of information provided to them in the early stages of a disease process. Shortened hospital stay reduces the time available for teaching patients information necessary for their recovery (Ashton, 1997). With an inadequate amount of time, information is condensed. The condensed information provided to the patient by members of the healthcare team may be biased according to what they deem to be important. Traditionally, healthcare professionals are the ones who select the content for patient education; yet, a patient’s content priorities may differ from those of the healthcare provider (Hussey, 1997). Patients’ perceptions of that which is important information may be different from that of the healthcare members providing the education.

Goodman (1997) conducted a study dealing with patients’ perceptions of their educational needs, examining the belief that education has greater impact on the patient if it takes as a starting point the patient’s idea and perceptions, rather than the ideas from the healthcare team. Therefore, it is important for healthcare providers to assess the learning needs of each patient prior to developing, implementing, and evaluating the educational design.

Significance of Problem

Coronary artery disease is highly prevalent in the United States and is the leading cause of mortality and morbidity for both men and women (Wung, 2002). The modification of risk factors, a vital aspect of the recovery process, can be done, in part, through patient education. However, information presented to the patient on various aspects of the disease process or treatment that may not be of importance to the client, can lead to noncompliance with treatment or recommended lifestyle changes. Patients may fail to follow certain treatment regimens due to the patient misunderstanding about what they are supposed to do as part of their care or because it conflicts with their values and beliefs about what is important (Dracup et al., 1994). Without proper assessment of the desired educational needs of the patient, information given to the patient by the healthcare provider may be disregarded. As stated by Hussey (1997), “the main purpose of patient education is to provide the patient with the knowledge needed for self care,” (pp. 37). Concerns and feelings of the patient should be a primary emphasis of patient education.
“Inadequate information can increase emotional distress, whereas gathering information about an illness helps patients gain a sense of personal control” (Hanisch, 1993, pp. 83).

Properly educating patients about a disease process is important to the Advanced Practice Nurse (APN). As a Clinical Nurse Specialist (CNS), it is vital to be aware of patients’ educational needs so that information is directed at those areas. Either a CNS or nurse educator functioning within the hospital may be able to design educational programs that begin with proper assessment by nurses caring for these patients to insure that educational needs are met. The Nurse Practitioner (NP), as well, plays an intricate role in the educational process of these patients. The NP follows these patients in outpatient settings after cardiac surgeries such as CABG, and must continue assessing for educational needs in order to minimize the further development of CAD. All members of the health care team must assist the client and their family in accepting the changes brought forth by chronic illness such as CAD. The client, family, and the health care team can achieve the goal of acceptance through active participation and communication.

**Purpose of the Study**

The purpose of this study is to compare the perceptions of cardiac patients with those of cardiac nurses concerning the patient education needs for maintaining a healthy heart. From the study, nurses will be able to identify various topics that are perceived by patients to be important within the educational process. From the topics identified by the patients to be of most important, education surrounding those issues can be presented. This can lead to more favorable outcomes for the cardiac patient.

**Research Questions**

Information regarding the patients’ and nurses’ perceptions of educational needs of the cardiac patient will be attained through three main questions. These questions are:

1. What are the cardiac patients’ perceptions of their educational needs?
2. What are the nurses’ perceptions of the cardiac patient’s educational needs?
3. Is there a difference between the patients’ and nurses’ perceptions?
4. Is there a relationship between the patients and nurses demographic variables and perception of educational needs?
**Operational Definitions**

Coronary Artery Bypass Graft (CABG) - is a surgical procedure performed on the patient population being studied. This procedure is designed to open clotted coronary arteries. Typically CABG patients remain in the hospital for a week.

Nurse- A licensed registered nurse by the state of Florida with an active, current license.

Cardiac Patient- An individual that is diagnosed with CAD and will have had a CABG

Perceptions- In this study, perceptions of educational needs will be measured using the Cardiac Patient Learning Needs Inventory where the nurse and patient will rate topics in importance. These topics will be rated according to a Likert scale as not important (1), somewhat important (2), moderately important (3), important (4), or very important (5).

Educational Needs- In this study, educational needs will be identified using the Cardiac Patient Learning Needs Inventory where topics are rated in importance by the patient and nurse. (Appendix A).

**Conceptual Framework**

Imogene King’s (1981) Interacting Systems Framework and Theory of Goal Attainment were selected to serve as the framework for this particular study because it focuses on the interactions among nurses and patients and mutual goal attainment. King’s Interacting Systems Framework contains three parts that serve as the framework within nursing and the human body. These systems consist of personal, interpersonal, and social systems. These three systems are in constant contact with one another (King, 1981). The personal system is the individual, which can be either the patient or the nurse. The interpersonal system is the formation of a bond between two or more individuals. According to King (1981), this bond between nurse and patient is an example of this particular system. Groups that are in constant interaction with one another that make up society are those of the social system.

The three systems relate to the patient and those interactions that are with self, others, and society. Given the context of this study, the personal systems of the nurses and patients are their thinking skills, inner thoughts, and inner motivations. When these two individual worlds collide in the setting such as a hospital, a bond is formed with interaction taking place between the two. The nurse and patient may operate and do things according to those standards and procedures that the hospital has set forth as appropriate for the patient. According to King (1989), “It is a
characteristic of a human process of interaction and along with communication, provides channel for passage of information from one person to another” (p. 7). This framework focuses on the interaction that takes place between a nurse and patient. The educational process between patient and nurse is one example of the interaction process.

When interaction between the patient and nurse occurs, goals are formed. Whether these goals are achieved is dependent on the amount of communication between the individuals involved. Patients who have CAD and have undergone a CABG need to make modifications to their daily life to improve their health status, and attempt to decrease further development of CAD. According to Ashton (1997), “As individuals gain the information they perceive as important, they can make the necessary changes to improve their health” (pp. 94). Through identifying the needs of the patient, the nurse can construct goals, and the nurse and patient can work together to attain those goals.

**Assumptions**

All patients receive some form of education after a CABG to explain the heart disease process and any lifestyle modifications that need to be made. Patients have specific needs regarding education of the cardiac experience during hospitalization. The extent of the education received is based on the standards of the hospital where the procedure will be performed. When given the questionnaires, the nurses and patients involved in this study will answer the questions honestly as to what their individual perceptions are concerning education.

**Limitations**

The hospital used for this study is a private hospital serving the upper, middle-class population, therefore, limiting generalizability. External forces such as family members and friends may influence the way that patients answer the questionnaire. Nurses may answer questionnaires based on the answers of coworkers. Physicians and nurses may influence patient’s perceptions of educational needs.

**Summary**

CAD is the leading cause of death in the United States (American Heart Association, 2003). Patient education is a vital step within the management phase to minimize further development of CAD with lifestyle modifications. “Patient education is an essential component of quality health care” (Oermann et al., 2002), and necessary for assisting the patient with these lifestyle modifications. Decreased hospital stay may restrict the amount of education provided to
the patients due to time restraints. This calls for the need for effective education provided to the patient. It is essential for the healthcare team to assess the learning needs of patients to insure that education is effective and directed at those areas of importance to the patient.

Through open communication between the nurse and patient, goals can be made to guarantee that needs are met. The study findings will aim to enhance the assessment skills of the nurse in identifying those areas that are of greatest importance to the patient so as to enhance the patients’ understanding of all aspects of the development of CAD, prevention, and treatment. King’s theory of goal attainment will support the study.
CHAPTER TWO
REVIEW OF THE LITERATURE

This chapter presents the integration of Imogene King’s Interacting Systems Framework and Theory of Goal Attainment. Interaction occurs among nurses and patients during education processes. The theoretical literature review will examine how King’s Theory has been utilized to guide research studies. The empirical literature will examine research studies that have been conducted dealing with learning needs, educational programs, and patient satisfaction.

Theory

King’s Nursing Theory

Imogene King’s (1981) Interacting Systems Framework and Theory of Goal Attainment were selected to serve as the framework of this study. According to King (1981), the goal of nursing is to promote, maintain, and restore health. Interacting Systems Framework contains three parts that serve as the framework within nursing and the human body. These systems consist of personal, interpersonal, and social systems. These three systems are constantly interacting with one another. The personal system, comprised of the individual, can be viewed in this particular situation as either the patient or the nurse. Characteristics of the personal system are thinking skills, inner thoughts, and inner motivation. The interpersonal system is comprised of interaction between two individuals. King (1981) described interaction as “a process that occurs between two or more individuals representing a series of verbal and nonverbal behaviors.” Groups that are in constant interaction with one another in society are those of the social system. These three systems relate to the patient and those interactions with self, others, and society.

King’s theory of goal attainment was developed from the conceptual framework of interpersonal systems. King (1981) stated:

“Nursing goals are achieved through nurse-client interactions when there is mutual goal setting by nurse and client, when both parties explore means to achieve goals and agree on the means, and when both exhibit behavior that moves
towards goal attainment” (p. 1).

Interactions as described by King (1981) are a process of both perceptions and communication. These interactions occur person to person. Nurses must assess patients’ educational needs during the discharge process after procedures such as a Coronary Artery Bypass Graft, CABG, to assure mutual goal setting. Mutual goal setting is based on nurses’ assessment of the clients’ concerns, problems, and disturbances in health (King, 1981). When exchanging of information occurs, those interacting will move towards goal attainment.

King’s theory was chosen for this study as the theory focuses on the interaction that occurs between the patient and the nurse and how these two work together and move towards goal attainment. Through perception and communication goal attainment is greatly influenced. King (1981) described: “Effective communication and accuracy in perceptions in situations determine learning as well as the growth of the patient and nurse” (p. 86). For effective learning to begin, nurses educating patients after a CABG must identify those educational needs that the patient perceives to be most important. Misperceptions between patients and nurses on educational areas can possibly hinder goal attainment. Patient compliance with a recommended treatment regimen is higher when there is a strong nurse and patient relationship (Dracup, et al., 1994).

Due to constant interaction between the nurse and patient it is necessary for there to be congruency in perceptions between the two. Froman (1995) conducted a study to explore the perceptual congruency between patients and nurses related to illness and the nursing care required. The researcher used King’s theory and the concepts of perception and how it will lead to goal attainment to guide the study. The study was conducted on medical and surgical units of three hospitals. The participants consisted of 40 matched nurse-patient pairs. The tool implemented in the study was the Patient Satisfaction With Care Scale, which examined the effect of mutual goal setting on the patient’s outcome and satisfaction of nursing care (Froman, 1995). The researcher designed a tool, the Perceptual Congruency Questionnaire, to measure the congruency of the nurses and patients’ perceptions.

From the data analysis, using descriptive statistics, the first category of the questionnaire which assessed the perceptions of the illness situation showed that the majority of the nurses (n=22, 52.5%) were either uncertain or did not understand what clients believed about their illness. Also, twenty (50%) of the nurses were uncertain of or did not understand how the patient
managed previous illnesses. The second category of the questionnaire, which focused on the perception of mutual goal setting, displayed that there was incongruency in responses between the nurse-patient pairs. Ten (25%) of the nurses responded that they did not understand or were unsure of the client’s personal preferences about nursing care. Eight (20%) of the nurses claimed that they did not know or were unsure of the patient’s expectations of nursing care and the care that the patient perceived to be helpful. Lastly, 14 (34.5%) of the nurses responded that they did not understand how the clients felt about the nursing care developed for them. The patient satisfaction with care questionnaire showed that 14 clients (35%) were not satisfied with not having a say in the healthcare services provided, and 19 (47.5%) of the clients were not satisfied with the quality of healthcare teaching that they had received from their nurse.

From the study, it was evident that there was incongruency in the perceptions of the nurses and patients. From the data results, it was clearly shown that majority of the nurses were either unaware or did not understand their patients feelings or needs. The researchers concluded that there was a lack of assessment by the nurses concerning the patient’s needs. With proper assessment of patient’s needs, the nurses will have more insight into what patients perceive to be of importance.

Empirical Studies

Patient Satisfaction

Patient satisfaction is strongly influenced by the amount of education received during hospitalization. Burney et al. (2002) conducted a study to identify patient satisfaction of their discharge preparation in a 637- bed university teaching hospital. Also the researchers wanted to identify the nurses’ perceptions of quality to that of the patients. Of the 384 surveys sent to cardiology patients one week after discharge, 161 responded. The overall satisfaction rates were 32 to 89 percent; the overall importance rates were 71 to 96 percent. These patients identified areas of discharge planning and teaching that were important such as: ways to relieve chest pain and shortness of breath, when to resume physical activities, management of stress, the signs and symptoms to monitor at home, how to deal with recurrent signs and symptoms, and explanations to loved ones of how to deal with an emergency (Burney et al., 2002). The nurses identified that the most important factor to be assessed in discharge planning was the patient’s readiness to return home. The study also showed that patients felt the nurses and other members of the healthcare team did not address their educational needs during hospitalization. Discharge
planning should incorporate assessment of educational needs to assure that these needs are being met.

Oermann (2002) identified that education can benefit patients in many ways. The researchers conducted the exploratory study to identify the differences in patient satisfaction with their clinical visit. The sample included 205 patients. The patients surveyed in the study were divided into two groups, those who received education while in the waiting room and those who did not receive any form of education. These educational interventions consisted of the patient being shown an educational video concerning the health topic related to that individual and interactions with the nurse. The tool implemented into this study to measure patient satisfaction was the Patient Visit Rating Questionnaire (VRQ). The VRQ was a 10-item survey distributed to the patients at the time of check out of the clinic. This questionnaire was designed to measure patient satisfaction with a single clinical visit (Oermann, 2002). Out of a possible score of 50, the educational group had a mean score of 35.09 and the noneducational group had a mean score of 35.93. Although the results showed no significant differences in the VRQ scores, the results of the study included that there were significant differences in patient satisfaction between the educational group and the non-educational group, with the educational group reporting more satisfaction (Oermann, 2002). The mean score of patient satisfaction of the patients in the educational group was 4.21 and the noneducational groups mean score was 3.57. The researchers concluded from the results that teaching should be a part of everyone’s healthcare and overall benefits the patient.

Education

Education provided to patients at the appropriate moment can alleviate feelings of anxiety. According to Hanisch (1993), “The respondents preferred the majority of informational items to be taught after the cardiac event but before discharge,” (p. 87). Educational areas such as when to resume sexual activity and involvement of partner and family were considered by many patients to best be discussed during post hospitalization visits. With shortened hospital stays, nurses must utilize all time available for education to insure that patients’ educational needs are met before discharge. This could be accomplished through the patient receiving daily education on topics deemed important.

Goodman (1997), using a qualitative design, examined patients’ perceived educational needs during the first 6 weeks subsequent to discharge after cardiac surgery in a local study at
the request of the community hospital’s multi-disciplinary cardiac rehabilitation team. The convenience sample of 10 patients was asked to keep a diary for 6 weeks following discharge to record feelings and concerns, and was then interviewed regarding their diary entries. The information given to these patients pre discharge was based on what the Cardiac Rehabilitation Group deemed important. The researchers wanted to explore the patients' perceptions of their educational needs. The study began with the assumption that there are conflicting educational perceptions between the nurse and patient.

From the patients’ logged diary entries, themes emerged identifying those areas in which patients felt they were educated poorly. These themes included pain, limitations of activity, exercising, dietary needs, and medication. The emerging themes should be the focus during pre discharge education of cardiac patients. To assure that patients are having their educational needs met, it is crucial that an assessment be conducted. Goodman (1997) believed that the education provided to the patient would be of greater influence if the patient initiated the educational session according to what their needs are rather than those perceived by the healthcare team.

Beggs et al. (1998) conducted a study to examine the discharge information provided to cardiac patients after coronary bypass surgery, and to identify if these patients were prepared. Six institutions collaborated in surveying 300 CABG post-operative patients to identify the learning priorities and patients’ perceptions of the effectiveness of discharge education. The patients were approached 2-5 weeks after surgery during the first follow up visit with the cardiac surgeon. A combination of healthcare providers from the six institutions created the Coronary Artery Bypass Surgery Patient Education Questionnaire, which was distributed to the patients (Beggs et al., 1998).

The mean percentage of the maximum achievable score was calculated. Analysis of variance, independent t tests, and chi square analyses were conducted depending on the level of measurement of the variable being analyzed. A two-tailed P value of less than .05 was considered significant for all of the statistical tests. Findings of the study concluded that discharge education is of extreme importance to cardiac patients. According to Beggs et al. (1998) possible complications, incision care, and who to call with questions were rated as the three most important categories by the patients. Questions pertaining to the timing of education revealed that 66% of patients preferred cardiac education after surgery whereas 21% preferred
cardiac education before surgery. By assessing the educational needs of the patient, the nurse is able to prioritize what the patient perceives to be important and from this, create effective, educational goals with the patient (Beggs et al., 1998).

Generalized Patient Studies

Mordiffi et al. (2003) examined the information provided to preoperative patients and their perceptions to whether or not the provided information was adequate. The sample of participants that were chosen was comprised of three cohorts: patients, nurses, and physicians. A convenience sampling method was used to obtain the patient cohort. The patients were chosen from a list of patients scheduled for major elective surgery and not admitted under emergency or semi-emergency situations. Nurses included were those who worked in the adult surgical, orthopedic, obstetric, and gynecology units. The physicians included anesthesiologists, surgeons, or surgeon assistants.

Interviews were conducted and recorded the participants’ responses. Three separate questionnaires were developed for the three cohorts addressing importance, adequacy of information, and method. The questionnaire addressing importance assessed the importance of the five facets of preoperative teaching and was ranked using a likert scale. From the questionnaires, the researchers were able to determine the patient’s understanding of the information provided to them by the healthcare providers.

Through data analysis the patients, 73.1%, understood more than half of the information provided to them by the nurses and 79.1% of the information from the physicians. More than half of the patients, 58.2%, perceived information concerning the details of anesthesia to be the most important. The nurses (49.1%) and physicians (45.2%) viewed details of anesthesia as well to be the most important. The three cohorts also rated the area of procedure detail as the second most important. Although patients, nurses, and physicians perceive the same information to be important, it is crucial that patients be assessed for their educational needs. With a structured educational program and proper assessment patients’ needs could possibly be fulfilled.

Chien et al. (2001) conducted a study to identify the specific educational needs of discharged Chinese, schizophrenic patients. A cross sectional survey was implemented to study the needs of 220 Chinese psychiatric patients who attended 1 of the 2 outpatient clinics in Hong Kong and were randomly selected from one of the clinic’s outpatient lists. The survey distributed to the patients was titled “Educational Needs Questionnaire,” (ENC) and had a Likert
scale where patients rated six areas of educational needs with 1, not important, to 5, very important. The ENC consisted of 6 areas: basic facts about mental illness; coping with patient symptoms; enhancing social functioning; community resources; coping with stress and family problems; and miscellaneous. Descriptive and inferential statistics were utilized on the data from the ENC. The list of needs was listed in descending order of the means, $M$, for each need. The areas of most importance included early warning signs of the illness and relapse ($M = 4.28$), strategies for solving problems ($M = 4.02$), strategies for improving social relationships ($M = 4.00$), and side effects of daily medication ($M = 3.96$) (Chien et al., 2001).

Through the survey given to the patients, the researchers also discovered that educational programs were highly rated by the patients concerning information about mental illness. Patients saw this as a way of improving social relationships and dealing with personal problems. As Chien et al. (2001) stated “the main goal of patient education is to provide adequate and pertinent information to patients to increase understanding of their illness, and to encourage health-promoting behaviors.” The researchers concluded that assessment of the different patient groups along with the factors within their life such as the effects of the illness, membership in support groups, and cultural factors, would enhance the educational programs designed to meet the needs of the patients (Chien et al., 2001).

**Educational Programs**

The decrease of hospital stay has served as the driving force behind the need for thorough and effective patient educational programs before discharge. Gershenson et al. (1999) examined the education provided to patients through an already existing educational program of a particular hospital. The researchers assessed their current educational program along with assessing how the programs benefit patients during the educational process. A 16-item survey was created based on the Joint Commission of Accreditation of Healthcare Organizations standards and was distributed to patients and cardiac staff within the hospital (Gershenson et al., 1999). This survey was completed by 109 cardiac services staff and 95 from patients or significant others. The patient responses that scored highest were related to staff being aware of their learning needs. These included the healthcare staff informing patients about their medications and ask questions to ensure patient understanding. When comparing the responses of nurses, physicians, nurse practitioners, and other staff members, inconsistencies were identified. The researchers concluded from the study that the different areas within the hospital
used different brochures on the cardiac disease process during the educational period. This method did not assure that all cardiac patients were receiving the same information concerning their disease. The amount of education provided to these patients was dependent on the location of the patient within the hospital considering cardiac patients were distributed throughout the hospital in the catheterization laboratory, two cardiac patient floors, and the cardiothoracic unit. Interventions were made to assure that all of the patients with a certain disease process were obtaining the same information to decrease the amount of confusion experienced by the patients and the patients’ families.

Wiggins (1989) conducted a study involving a support group of cardiac patients. The support group was developed prior to the study and was comprised of patients and their families. The researcher was most interested in learning about the experiences of the cardiac patients and their families related to education and support that was received after discharge. The researcher proposed to the existing group to incorporate educational programs for newly diagnosed cardiac patients. A group of local university students implemented eight educational series for cardiac patients and their families. Evaluation of the implemented program was obtained at mid series and after the last class. These evaluations were both verbal and nonverbal. Wiggins (1989) stated that feedback included comments such as “the programs helped with peace of mind” and “answered thoughts of people with cardiac problems.” It was concluded from the study that early intervention for the cardiac patient post discharge is a definite need. “The newly diagnosed cardiac family needs and seeks information, referral, and assistance from the healthcare system to re-establish its equilibrium and place in society,” (Wiggin, 1989).

McNamee & Wallis (1998) conducted a descriptive and comparative study and evaluated a hospital’s current discharge educational program for CABG patients. A convenience sample of 32 patients who had uneventful recoveries following first time CABG surgery was accessed for their perceptions of the discharge program. The descriptive and comparative design incorporated both quantitative and qualitative data collection. Twenty percent of the patients claimed that they were not educated on the area of risk factor modification. According to McNamee & Wallis (1998), because there is no cure for coronary artery disease, risk factor modification is an area of educational importance. Although the educational program was found to be effective, areas such as risk factor modification needed revising.
Learning Needs of the Cardiac Patient

Learning needs of cardiac patients were assessed in the study conducted by Gerard & Peterson (1984). This study was conducted in a 537-bed hospital and focused on educational needs of patients recently recovering from a myocardial infarction. The perceptions of the patients’ needs were compared with those perceived perceptions of the nurses providing care to these patients. The patient participants were 16 patients from the CCU and 15 discharged patients attending a follow up appointment with their cardiologist. The nurse participants were 20 CCU nurses and 16 post CCU nurses. Gerard (1984) created a tool to assess these educational needs titled “Cardiac Patient Learning Needs Inventory, (CPLNI)” and was used to assess those areas concerning the patient such as introduction into the coronary care unit, anatomy and physiology, psychological concerns, risk factors, information about medications, dietary information, physical activity, and miscellaneous information. From the questionnaires, the patients and nurses had opposing perceptions of what was most important. Mean scores for each informational category were derived and compared by all participating groups using independent *t*-tests. The patients of both groups ranked risk factors as being most important. The mean CPLNI scores for the informational category, risk factors, was 4.53 for the CCU patients and 4.47 for the post discharge patients. The nurses mean CPLNI scores for the same category of risk factors were 4.34 for the CCU nurses and 4.20 for the post CCU nurses. Nurses from both units considered education related to the area of medications to be the most important with mean scores of 4.75 for the CCU nurses and 4.63 for the post CCU nurses. The CCU patients ranked the educational area of medication information second with a mean score of 4.39 and the post discharge patients ranked this educational area fourth with a mean score of 4.37. As stated by Gerard & Peterson (1984), “the success of teaching depends not only on the congruence of the patient-teacher expectations but on patient perceptions,” (pp. 11). It is important that the nurse assess for patients’ needs. The conclusions of this study serve as a basis for nurses to determine patient needs prior to beginning education for cardiac patients (Gerard & Peterson, 1984).

Karlik & Yarcheski (1987) partially replicated the study conducted by Gerard and Peterson (1984). They conducted a research study comparing patient and nurse educational perceptions using the tool developed by Gerard, CPLNI in a 416-bed hospital (Karlik & Yarcheski, 1987). This replication study was very similar concerning the patient sample. The
sample included 15 patients in the CCU and 15 post discharge patients. However, in contrast with Gerard and Peterson’s study, 15 CCU nurses as well as 15 nurse educators’ perceptions were examined. For each of the informational categories, means were generated for each individual participant, patient, and nurse groups (Karlik & Yarcheski, 1987). Independent t-tests were used to compare the mean ratings of the CPLNI categories for all participating groups and were inspected for the comparisons of rankings for the informational categories. The researchers concluded that there were differing perceptions of the patients and nurses concerning educational needs. Similar to the results of Gerard & Peterson (1984), the CCU nurses and the nurse educators ranked the topic, medications, higher than the CCU patients. The category of medications was rated significantly higher by the CCU nurses than by the CCU patients ($t_{[22.46]} = 2.67, p = 0.01$). The researchers concluded the following: CCU and post discharge patients ranked risk factors as most important as an informational need with a rating of one. On the other hand, the CCU nurses and nurse educators ranked medication as number one. The groups differed in their perceptions of what is of most importance concerning education, which demonstrates the incongruence that can occur with patient education among healthcare professionals.

The specific learning needs concerning heart disease of women compared with men using a descriptive/ comparative design in a 523- bed hospital. The CPLNI was distributed to the patients who met the inclusion criteria. The sample consisted of 121 patients (73 men and 48 women) who had been hospitalized with either the diagnosis of a myocardial infarction, MI, or rule out MI (Ashton, 1997).

Data were analyzed initially by using the mean scores of each informational category for the men and women. Mean ratings were compared with the use of independent t tests for both the men and women. The mean scores were then ranked for the men and women. The comparisons of the informational categories from the CPLNI showed no significant differences between men and women. Women rated the medication category as the most important, while the men rated risk factors as most important. Both groups rated all categories of the CPLNI as being at least important, but the women had higher mean scores than the men. According to Ashton (1997) the high mean scores for the women could possibly reflect the woman’s role of learning and being more closely involved with health in society. Small differences between men
and women on the six individual items may emphasize the importance of individualized teaching plans for all patients (Ashton, 1997).

Hanisch (1993), using a descriptive design, focused on the selected informational needs of cardiac rehabilitation patients to determine the most appropriate time to provide the information. The patient sample included 41 Phase II cardiac rehabilitation patients who had experienced a Myocardial Infarction, MI, or a CABG in the past six weeks to six months. The patients were presented a tool to measure the extent of informational needs of the cardiac patient. The informational needs were listed as well as displaying the frequency, \( f \), of the top four informational needs as ranked by the patients. The \( f \) helped the researchers identify the areas that were ranked as very important among the participants. Of the 30 informational need areas, the patients ranked the following as the top four, which all had a \( f = 32 \): (1) specific instructions on type and amount of activity/restrictions, (2) what is normal and to be expected after cardiac events, (3) medications, (4) and signs and symptoms of complications that may warrant medical attention (Hanisch, 1993). The specific complications that may warrant medical attention were not specified within the study. The area of least importance to the patients was that of sexual function \( (f = 15) \). The patients at the end of the questionnaire were asked to list any item that was of importance that was not listed on the questionnaire. Specific information concerning discharge, diet, and exercise were considered to be important and patients felt a need to be educated on those areas (Hanisch, 1993).

**Summary**

From the review of literature, it is a necessary component of the nursing process to assess for educational needs before learning can take place. The literature has identified misperceptions of educational needs among both patients and nurses. Many of the misperceptions can be linked to there being no assessment for educational needs by the healthcare professionals. The empirical studies have identified that teaching is more effective when the nurse and other members of the healthcare team focus on areas that are of importance to the patient. As part of the nursing process, the healthcare provider must assess those needs. Effective cardiac teaching must be implemented for patients to understand their disease and want to make necessary lifestyle changes. The nurse and patient are in constant interaction with one another and goals from the interaction can take place to identify those areas of the patient’s lifestyle that may need modification to prevent the further development of CAD. King’s model can be instrumental
when evaluating the interaction and goal formation between the patient and nurse. Goal attainment by the nurse and patient should focus on increasing health if that is what the patient desires. Through interaction and mutual goal attainment, the slowing of the progression of CAD and increasing the quality of the patient’s life can be achieved.

From the study, areas of misconception between the nurses and patients will be identified. Due to the floor of the chosen hospital having not set criteria for education, areas of importance identified by the patients will assist the nurses in what areas to focus on during the educational process. As an advanced practice nurse, it is important to assist fellow nurses in assessment of educational needs to increase understanding, compliance, and hopefully health.
CHAPTER THREE

METHODOLOGY

This chapter presents the methodology used to examine the differences in perceptions between patients and nurses regarding cardiac education using the Cardiac Patients Learning Needs Inventory (CPLNI) tool created by Peggy S. Gerard, DNSc, RN (1984). Methods for data collection and analysis are outlined.

Design

The study consisted of a nonexperimental, explorative, and comparative design. Rationale for the study being of a nonexperimental nature is that there was non-randomization and no manipulation of the independent variable, group membership. The design was comparative in nature because two intact sample groups were surveyed based on a single dependent variable, the difference in perceptions between patients and nurses. The design was explorative due to educational perceptions of the nurses and patients being explored. The data was cross-sectional due to the nurses’ and patients’ perceptions being evaluated at a single point of time.

Setting

The study was conducted in a private, community hospital in the North Florida region. The Progressive Care Unit within this hospital was the area where the sample of nurses and patients were obtained. The chosen hospital had no set criteria or checklist concerning the education for cardiac patients post CABG. The nurses of the particular unit care for these patients postoperatively, after discharge from the Intensive Care Unit. There is no system control, guidelines, nor protocols concerning the extent and content of the educational material given to cardiac patients. The nurses, therefore, impose on the educational process their own beliefs about what is of educational significance to these patients. This setting serves all populations of age, gender, and ethnicity, without discrimination, but the hospital chosen is a private hospital and mainly serves middle to upper class members of the community. All of the patients participating in this study had a coronary artery bypass graft within the chosen hospital.
Sample

A nonprobablility convenience sample of 40 participants was obtained. There are 20 nurses employed in the Progressive Care Unit within the participating hospital. These nurses are employed as full time, part time, or PRN (meaning when needed). The other 20 participants were patients who voluntarily agreed to participate in the study. The patients had a CABG performed within the hospital. The sample of patients included all ethnic groups, both genders, and all ages. The criteria for patient inclusion consisted of patients who: (a) had a CABG, (b) had no prior CABG surgery, (c) were free of narcotic analgesic for pain, (d) and signed a consent form. The nurses selected for the study were those who cared for the patients post CABG once they were stable and discharged from the ICU. The criteria for nurse inclusion were: (a) nurses licensed as registered nurses by the state of Florida with an active, current license, (b) signed a consent form, and (c) employed by the participating unit. The nurses’ were age 21 years and older. Again, gender and ethnicity were inclusive.

Protection of Human Subjects

The nurse approached the patients the day of discharge from the Progressive Care Unit. The purpose of the study was explained. The patients were given a letter explaining why they were chosen, a description of the questionnaire, the risks and benefits of participation, the participant’s right to voluntarily participate, and assurance of confidentiality. The participants had to have signed a consent form verifying understanding of the above mentioned, and indicating that they agreed to participate. The consent form designed for the patients follows the Health Insurance Portability and Accountability Act of 1996 (HIPPA), and it was approved by the hospital administration (see Appendix D for approval letter).

Patient who agreed to participate were given a packet of forms. The packets were numerically coded to assure patient confidentiality. The signed consent form was separated by the nurse from the completed questionnaire and was placed in separate envelopes to uphold confidentiality. The unit’s Clinical Nurse Specialist kept the completed packets in a secure drawer. The researcher attained the completed forms from the unit, which then were locked in a file cabinet and only the researcher or the researcher’s advisor have access.

A flyer describing the purpose and content of the study was posted in the unit’s nurse’s station. The nurses who desired to participate signed a consent form before participating in the study. After completion of the questionnaire and demographic form, the nurse separated the
consent form from the completed forms to maintain participant confidentiality. The forms were placed in separate envelopes and kept in a secure drawer by the unit’s Clinical Nurse Specialist. The researcher obtained the completed forms from the unit, kept in a locked file cabinet and only the researcher or the researcher’s advisor had access.

The area was not controversial and should not generate public concern. Participants could benefit by the improved cardiac education regarding CAD, and necessary lifestyle modifications that prevent further development of CAD.

**Measures**

*Cardiac Patients Learning Needs Inventory*

The Gerard’s Cardiac Patients Learning Needs Inventory, CPLNI, was distributed to all of the participants. The tool was developed by Gerard (1984) and was utilized in assessing patients’ and nurses’ perceptions of the importance of learning needs. The coefficient alpha, indicating reliability, for the total questionnaire is 0.91. The coefficient alpha for the other categories including Anatomy and Physiology, Psychological Factors, Risk Factors, Medication Information, Diet Information, Physical Activity, and Other Pertinent Information ranges from 0.77-0.85 According to Gerard & Peterson (1984), content validity of the questionnaire was ensured through an extensive review of the literature and the questionnaire being reviewed by four doctorally prepared, cardiovascular educators. The original tool was comprised of a total of 43 questions are grouped into categories including Introduction to the CCU, Anatomy and Physiology, Psychological Factors, Risk Factors, Medication Information, Diet Information, Physical Activity, and Other Pertinent Information. The category, Introduction to the CCU, was removed from the tool with the author’s permission for the context of this particular study was with patients who were in the Progressive Care Unit within the hospital. The modified tool, used in the study, was comprised of 37 questions divided into 7 subscales to explore both the patient’s and the nurse’s perception of educational needs of the cardiac patient. The seven subscales included Anatomy and Physiology, Psychological Factors, Risk Factors, Medication Information, Diet Information, Physical Activity, and Other Pertinent Information. The questions were answered using a 5-item Likert Scale ranging from (1) not important to (5) very important.
Demographic Sheets

There were two demographic sheets utilized within the study, one for the patients and one for the nurses. The patient demographic sheet included age of the patient, race, gender, marital status, educational level, whether or not the patient has a chronic illness, any previous hospitalization for cardiac conditions, and any previous cardiac education. The nurse demographic sheet included age, race, gender, marital status, number of years practicing as a registered nurse and cardiac nurse, employment status such as full time, part time, and PRN, degree in nursing, experience in teaching cardiac patients, and the description of the teaching plan that is used by the individual nurse.

Procedure

A letter was sent to the Florida State University Institutional Review Board (IRB) for approval of the proposed study. Once approval was attained from the IRB, the letter stating approval along with a detailed description of the study was sent to the Risk Manager of the participating hospital.

A flyer was displayed in the nurse’s station of the chosen unit within the hospital. The flyer invited all the nurses in that unit to participate. The flyer also described, briefly, the purpose and description of the study, and stated that participation was voluntary. After signing a consent form, the nurses obtained a questionnaire, CPLNI, and nurse’s demographic form from a designated area. The nurses returned the completed forms to the unit’s Clinical Nurse Specialist who placed them in a secured drawer. The researcher obtained the completed packets from the Clinical Nurse Specialist and had stored them in a locked file cabinet, to which only the researcher and the researcher’s advisor have access. The completed forms, saved by the researcher for three years from the collection date, will be discarded by the researcher via the use of a paper shredder. After the nurses completed the forms, the patients were surveyed. The nurses were asked not to alter their educational style to ensure validity of the study, and to avoid influencing the patients’ answers to the provided questionnaire.

The assigned nurse in the Progressive Care Unit approached the patient participants prior to the time of discharge. The nurses explained the content and purpose of the study. The patient also was given a letter explaining the purpose of the study, why they were chosen, a description of the questionnaire, the risks and benefits of participation, the participant’s right to voluntarily participate, and assurance of confidentiality. The letter included the numbers to Florida State
University’s Institutional Review Board and the hospital’s Institutional Review Board if any concerns or questions were to arise from participation. The researcher’s and the directing faculty member’s phone numbers were also listed in the letter for the participants to use if a question or problem arose during or after the study.

Once the patients agreed to participate, and signed the consent form necessary for participation, they were given a packet of forms. The packet included a patient demographic form and the questionnaire, Gerard’s Cardiac Patient’s Learning Needs Inventory, CPLNI. After completion of the packet of forms from each individual patient, the nurse separated the consent form and the questionnaire to maintain patient confidentiality. The consent form and questionnaire were placed in separate envelopes within the nurse’s station, placed in a secure drawer by the Clinical Nurse Specialist, and then collected by the researcher. The researcher had no contact with the patients. The completed packets have been kept in a locked file cabinet to which only the researcher and the researcher’s advisor have access. The completed forms will be saved three years from the collected date and then destroyed by the researcher using a paper shredder.

Data Analysis

The first research question, “What are the patients’ perceptions of their educational needs?”, was explored using descriptive statistics (i.e., means, medians, standard deviations, and percentages) of the seven subscales from the CPLNI. The second research question, “What are the nurses’ perceptions of the cardiac patient’s educational needs?”, was analyzed using the methods described above. The third research question, “Is there a difference between the patients’ and nurses’ perceptions?”, was explored using a t-test. The last research question, “Is there a relationship between demographic variables and perception of educational needs?”, was explored using nonparametric correlation and Mann Whitney tests.

The tests were performed with the nurse/patient distinction serving as the independent variable and the difference of perceptions of the two groups based on the 7 subscales of the CPLNI served as the dependent variables. With the use of the above tests including the ANOVA, assumptions were made. The assumptions include:

1. Normality
2. Independence (intra and intersample)
3. Homogeneity of variance – this assumption will be tested
4. Continuity of the dependent variable, difference in the perceptions of the nurses and patients
5. Interval scale of the dependent variable
6. Observations are randomly selected

**Summary**

The study’s main purpose was to compare the perceptions of the cardiac patients regarding their educational needs with that of the nurses’ perceptions of the cardiac patient’s educational needs. From the analysis of the data collected, those areas of difference between the patients and nurses were identified. The identification of the differences is of great importance to the nursing community to improve effective education of cardiac patients. Through effective communication between the nurse and patient, goals are made, and can be met with improved education.

Cardiac patients are concerned with how to manage their disease process at home. For postoperative CABG patients to care for themselves, once discharged, it is vital that patients understand how to use their medications, plan or restrict activities, eat properly, and make any modifications to their lifestyle that are necessary. Through the use of the CPLNI, the nurse is able to identify those educational areas that must be focused on during the educational process to insure that patients are prepared to be discharged and care for themselves at home.
CHAPTER FOUR
RESULTS

This chapter addresses the statistical findings from this study. This study explored the perceptions of cardiac patients with those of cardiac nurses concerning the patient education needs for maintaining a healthy heart. The statistical analyses used within this study describe the sample, answer the research questions, and provide descriptive information.

Description of the Sample

The sample consisted of 38 participants, 18 cardiac nurses and 20 cardiac patients, and was obtained from a North Florida community hospital. The mean age of the nurse participants was 32.1 years (minimum age = 25, maximum age 49). Seventeen (94.4%) of the nurses were Caucasian and one (5.6%) was Asian. Fifteen (83.3%) of the nurses were female and three (16.7%) were male. The mean number of years as a registered nurse was 6.4 years (minimum = 1 year, maximum = 18 years). The mean number of years as a cardiac nurse was 3.5 (minimum year = 1, maximum = 18 years). Seventeen (94.4%) of the nurses were employed full time and one (5.6%) was employed as PRN, meaning as needed. Twelve (66.7%) of the nurses had a Bachelor of Science in Nursing degree and six (33.3%) had an Associate of Science or Associate of Arts Degree in Nursing. Sixteen (88.9%) of the nurses claimed that they had experience teaching cardiac patients and two (11.1%) of the nurses answered having no experience with teaching cardiac patients. When asked about the style of the teaching plan that was utilized by each individual nurse, nine (50%) of the nurses answered “yes” to using a standardized teaching plan and nine (50%) of the nurses answered “yes” to utilizing a modified teaching plan (see Tables 1, 2).

The mean age of the cardiac patient sample was 64.7 years (minimum = 46 years, maximum = 80 years). Fifteen (75%) of the patients were Caucasian and five (25%) were African American. Two (10%) of the patients were currently single, eleven (55%) were married, four (20%) were divorced, and three (15%) were widowed. Twelve (60%) of the patients were male and eight (40%) were female. The focus of the study was patients’ perceptions of
educational needs; therefore, educational background was surveyed. Ten (50%) patients reported having a high school education, two (10%) had some college, one (5%) had either an AA or AS degree, one (5%) had a technical institute degree, three (15%) had a Bachelors degree, one (5%) had a Masters degree, and no patients had a Doctorate degree. Two (10%) patients did not respond to the question about level of education. Four (20%) patients were grouped into “White Collar” professions, 10 (50%) were grouped into “Blue Collar” professions, and six (30%) either did not have an occupation or did not respond to the question. Twelve (60%) of the patients responded to having another chronic illness other than cardiac disease, and eight (40%) responded that they only had cardiac disease. Of the other chronic disorders, besides cardiac, one (5%) had some form of respiratory disease, eight (40%) had diabetes, eight had other chronic issues such as arthritis or back pain, which were grouped into “other diseases” category, and no patients reported having cancer. Eight (40%) patients reported previous hospitalizations related to a cardiac condition and twelve (60%) had no prior hospitalizations related to a cardiac condition. When inquiring about whether the patients had previously had cardiac teaching, only four (20%) responded that they had ever had cardiac teaching. Fifteen (75%) of the patients reported that they had not previously received any form of cardiac teaching and one (5%) patient did not respond to the question (see Tables 1, 3).

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Demographic Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Nurses</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-25</td>
<td>16.70%</td>
<td>15%</td>
</tr>
<tr>
<td>26-30</td>
<td>39%</td>
<td>10%</td>
</tr>
<tr>
<td>31-35</td>
<td>16.70%</td>
<td>10%</td>
</tr>
<tr>
<td>36-40</td>
<td>11.20%</td>
<td>10%</td>
</tr>
<tr>
<td>41-45</td>
<td>5.60%</td>
<td>20%</td>
</tr>
<tr>
<td>46-50</td>
<td>11.20%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
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<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>94.40%</td>
<td>75%</td>
</tr>
<tr>
<td>African American</td>
<td>5.60%</td>
<td>25%</td>
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Table 1 Continued
Common Demographic Data

<table>
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<th>Nurses</th>
<th>Patients</th>
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<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Male</td>
<td>16.7%</td>
<td>60%</td>
</tr>
<tr>
<td>Female</td>
<td>83.3%</td>
<td>40%</td>
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n = 18 (nurses), n = 20 (patients)

Table 2
Nurse Demographic Data

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<th>Range</th>
<th>Percent</th>
<th>Variable</th>
<th>Percent</th>
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<tbody>
<tr>
<td><strong>Years as Registered Nurse</strong></td>
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<td>61.10%</td>
<td><strong>Degree</strong></td>
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</tr>
<tr>
<td></td>
<td>6-10</td>
<td>16.80%</td>
<td>Associate of Arts</td>
<td>33.30%</td>
</tr>
<tr>
<td></td>
<td>11-15</td>
<td>5.60%</td>
<td>Bachelors of Science</td>
<td>66.70%</td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>16.80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Experience teaching Cardiac Nurse</strong></td>
<td>1-5</td>
<td>88.80%</td>
<td><strong>Patients</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-10</td>
<td>5.60%</td>
<td>Experience</td>
<td>88.90%</td>
</tr>
<tr>
<td></td>
<td>11-15</td>
<td>0</td>
<td>no experience</td>
<td>11.10%</td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>5.60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
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<td></td>
<td><strong>Teaching Plan</strong></td>
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</tr>
<tr>
<td>Full time</td>
<td></td>
<td>94.40%</td>
<td>Standard</td>
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<tr>
<td>PRN</td>
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<td>5.60%</td>
<td>Modified</td>
<td>50%</td>
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</table>

n = 18

Table 3
Patient Demographic Data

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<th>Variable</th>
<th>Percent</th>
<th>Variable</th>
<th>Percent</th>
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<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td><strong>Diabetes</strong></td>
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<tr>
<td>High School</td>
<td>50%</td>
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<td>40%</td>
</tr>
<tr>
<td>Some College</td>
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<td>no</td>
<td>60%</td>
</tr>
<tr>
<td>Associate of Arts/Associate of Science</td>
<td>5%</td>
<td><strong>Other Disease</strong></td>
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</tr>
<tr>
<td>Bachelors</td>
<td>5%</td>
<td>yes</td>
<td>40%</td>
</tr>
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</table>
Table 3 Continued
Patient Demographic Data

<table>
<thead>
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<th>Percent</th>
<th>Variable</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Masters</td>
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<td>no</td>
<td>60%</td>
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<tr>
<td>Doctorate</td>
<td>5%</td>
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<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td>Previous Cardiac Condition</td>
<td></td>
</tr>
<tr>
<td>Blue collar</td>
<td>20%</td>
<td>yes</td>
<td>40%</td>
</tr>
<tr>
<td>White Collar</td>
<td>50%</td>
<td>no</td>
<td>60%</td>
</tr>
<tr>
<td>None</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-morbidity</td>
<td></td>
<td>Previous Cardiac Teaching</td>
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</tr>
<tr>
<td>yes</td>
<td>60%</td>
<td>yes</td>
<td>20%</td>
</tr>
<tr>
<td>no</td>
<td>40%</td>
<td>no</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>not applicable</td>
<td>5%</td>
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<tr>
<td>Respiratory</td>
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<tr>
<td>yes</td>
<td>5%</td>
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<td></td>
</tr>
<tr>
<td>no</td>
<td>95%</td>
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n = 20

Reliability for the Dependent Variables

The Cardiac Patient’s Learning Needs Inventory (CPLNI) generated the seven dependent variables for the study. The seven subscales of the CPLNI were Anatomy and Physiology, Psychological Factors, Medication Information, Diet Information, Physical Activity, and Other Pertinent Information. Each question within the seven subscales was given a score based on a Likert scale ranging from 1 = not important to 5 = very important. The score for each of the subscales were derived by averaging all the scores within that scale. The reliability scores for the categories Anatomy and Physiology, Psychological Factors, Risk Factors, Medication Information, Diet Information, Physical Activity, and Other Pertinent Information ranged from 0.78 to 0.92 (see Table 4).
Table 4
Reliability Coefficients of Subscales

<table>
<thead>
<tr>
<th>CPLNI S.S</th>
<th>Cronbach's Alpha</th>
</tr>
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<tbody>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>0.8552</td>
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<tr>
<td>Psychological Factors</td>
<td>0.8069</td>
</tr>
<tr>
<td>Risk Factors</td>
<td>0.7798</td>
</tr>
<tr>
<td>Medication Information</td>
<td>0.9182</td>
</tr>
<tr>
<td>Diet Information</td>
<td>0.8821</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>0.8656</td>
</tr>
<tr>
<td>Other Information</td>
<td>0.8157</td>
</tr>
</tbody>
</table>

Note. CPLNI S.S = cardiac patient learning needs inventory subscales.

Perceptions of Cardiac Learning Needs

The core questions driving the study inquired what patients and nurses perceive to be the cardiac patient’s perceptions of educational needs and whether the two groups differed in their views. The CPLNI assessed the sample of patients and nurses and their perceptions. The first research question, “What are the patients’ perceptions of their educational needs?” was explored using descriptive statistics (i.e., means and standard deviations, and percentages). The categories ranked in order of importance by the patients were medications ($M = 4.61, SD = 0.65$), risk factors ($M = 4.30, SD = 0.66$), anatomy and physiology ($M = 4.25, SD = 0.72$), diet information ($M = 4.18, SD = 0.66$), psychological factors ($M = 4.09, SD = 0.79$), other information ($M = 4.05, SD = 0.62$), and physical activity ($M = 3.99, SD = 0.62$) (see Table 5).

The second question, “What are the nurses’ perceptions of educational needs of the cardiac patient?” was explored using descriptive statistics (i.e., means and standard deviations, and percentages). The categories ranked in order of importance by the nurses were medications ($M = 4.55, SD = 0.51$), psychological factors ($M = 4.43, SD = 0.54$), risk factors ($M = 4.42, SD = 0.49$), other information ($M = 4.35, SD = 0.61$), anatomy and physiology ($M = 4.34, SD = 0.44$), diet information ($M = 4.33, SD = 0.58$) and physical activity ($M = 4.32, SD = 0.62$) (see Table 5).
Table 5

Group Descriptive Statistics

<table>
<thead>
<tr>
<th>CPLNI S.S</th>
<th>Patients</th>
<th></th>
<th></th>
<th>Nurses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>4.2542</td>
<td>0.72722</td>
<td>4.3426</td>
<td>0.4455</td>
<td></td>
</tr>
<tr>
<td>Psychological Factors</td>
<td>4.09</td>
<td>0.79862</td>
<td>4.4333</td>
<td>0.54124</td>
<td></td>
</tr>
<tr>
<td>Risk Factors</td>
<td>4.3</td>
<td>0.66193</td>
<td>4.4259</td>
<td>0.49581</td>
<td></td>
</tr>
<tr>
<td>Medication Information</td>
<td>4.6125</td>
<td>0.65129</td>
<td>4.5556</td>
<td>0.51131</td>
<td></td>
</tr>
<tr>
<td>Diet Information</td>
<td>4.1875</td>
<td>0.66726</td>
<td>4.3333</td>
<td>0.58611</td>
<td></td>
</tr>
<tr>
<td>Physical Activity</td>
<td>3.9933</td>
<td>0.7864</td>
<td>4.3222</td>
<td>0.62549</td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td>4.0571</td>
<td>0.62939</td>
<td>4.3571</td>
<td>0.61053</td>
<td></td>
</tr>
</tbody>
</table>

Note. CPLNI S.S = cardiac patient learning needs inventory subscales.

The third research question, “Is there a difference between the nurses and patients perceptions?” was explored using an independent t-test. According to the data analysis, there were no statistically significant differences found in the mean scores on the seven subscales between nurses and patients (alpha \( p \) level = .05). The two groups ranked medication information as most important and physical activity as least important (see Table 6).

Table 6

Independent Samples Test

<table>
<thead>
<tr>
<th>CPLNI S.S</th>
<th>t-test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>0.446</td>
<td>0.658</td>
</tr>
<tr>
<td>Psychological Issues</td>
<td>1.533</td>
<td>0.134</td>
</tr>
<tr>
<td>Risk Factors</td>
<td>0.658</td>
<td>0.515</td>
</tr>
<tr>
<td>Medication Information</td>
<td>-0.297</td>
<td>0.768</td>
</tr>
<tr>
<td>Diet Information</td>
<td>0.712</td>
<td>0.481</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>1.416</td>
<td>0.165</td>
</tr>
<tr>
<td>Other Information</td>
<td>1.488</td>
<td>0.145</td>
</tr>
</tbody>
</table>

Note. \( P = 0.5 = \) significance. \( n = 20 \) (patients), \( n = 18 \) (nurses).

The fourth and final research question, “Is there a relationship between demographic variables and perception of education?” was analyzed using a non-parametric correlations and Mann-Whitney U test. Spearman’s Rho, a nonparametric correlation test, was used to compare
the seven subscales of the CPLNI with certain demographic variables from the sample of nurses. The nurse’s age, years as a nurse, and years as a cardiac nurse were the demographics used. According to the data analysis, there were no statistically significant differences found between the nurse’s age, experience as a nurse, and experience as a cardiac nurse with the seven subscales of the CPLNI (alpha $p$ level = .05). The correlation coefficient between the nurse’s age and the seven subscales of the CPLNI ranged from -.270 to .140. The correlation coefficient between the nurse’s experience as a nurse and the seven subscales of the CPLNI ranged from -.225 to .330. The correlation coefficient between the nurse’s experience as a cardiac nurse and the seven subscales of the CPLNI ranged from -.248 to .039 (see Table 7).

The patient’s age and level of education were the demographic variables used in the Spearman’s Rho analysis to assess correlation between the patient sample and the seven subscales of the CPLNI. The correlation coefficient between the patient’s age and the seven subscales of the CPLNI ranged from -.038 to .215. The correlation coefficient between the patient’s level of education and the seven subscales of the CPLNI ranged from -.333 to .112. From the analysis of the data, there were no correlations between the patient’s age and level of education with the seven subscales of the CPLNI (see Table 7).

| Table 7 |
|---|---|---|---|---|---|
| Nurse and Patient Spearman's Rho Correlations |
| Nurse | Patient |
| CPLNI S. S | Age | Years as Registered Nurse | Years as Cardiac Nurse | Age | Education |
| Anatomy & Physiology | -0.275 | -0.225 | -0.286 | 0.06 | 0.021 |
| Psychological Issues | -0.019 | 0.071 | -0.156 | -0.28 | 0.112 |
| Risk Factors | -0.178 | 0.015 | -0.14 | -0.038 | 0.077 |
| Medication Information | 0.104 | 0.33 | -0.047 | 0.215 | -0.333 |
| Diet Information | -0.067 | 0.09 | 0.012 | 0.193 | -0.254 |
| Physical Activity | 0.055 | 0.146 | -0.236 | -0.162 | 0.139 |
| Other Information | 0.014 | 0.02 | 0.039 | -0.032 | 0 |

n = 20 (patients), n = 18 (nurses), CPLNI = Cardiac Patient Learning Needs Inventory
The Mann-Whitney U test was used to examine if there was a relationship between demographic variables of the two sample groups with the seven subscales of the CPLNI. At an alpha = 0.05 there was a statistically significant difference between the nurses’ gender, and the ranking of anatomy and physiology ($p = 0.035$), psychological issues ($p = 0.026$), medication information ($p = 0.019$), physical activity ($p = 0.013$), and other info ($p = 0.027$). This meant that the female nurses rated the above categories more important than the male nurses. A statistically significant difference was also evident between the nurses’ education and the ranking of psychological factors ($p = 0.022$), and physical activity ($p = 0.05$) for patient learning needs. The data showed that the nurses with a BSN degree rated psychological factors and physical activity as more important than those nurses without a BSN. No other significant differences were found (see Table 8).

The only significant difference found between the patients’ demographic variables and the seven subscales of the CPLNI was for patients with Diabetes Mellitus. These patients showed a strong interest in the area of risk factors and felt that this area was of importance ($p = 0.038$). No other significantly differences were found (see Table 9).

Table 8
Mann-Whitney U for Nurses

<table>
<thead>
<tr>
<th>CPLNI S.S</th>
<th>Gender</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>.35</td>
<td>0.341</td>
</tr>
<tr>
<td>Psychological Issues</td>
<td>.026</td>
<td>*0.022</td>
</tr>
<tr>
<td>Risk Factors</td>
<td>.055</td>
<td>0.297</td>
</tr>
<tr>
<td>Medication Information</td>
<td>.019</td>
<td>0.284</td>
</tr>
<tr>
<td>Diet Information</td>
<td>0.146</td>
<td>0.292</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>0.013</td>
<td>*0.05</td>
</tr>
<tr>
<td>Other Information</td>
<td>0.027</td>
<td>0.081</td>
</tr>
</tbody>
</table>

Note. * $p = .05 = $significant. n = 18

Table 9
Mann-Whitney U for Patients

<table>
<thead>
<tr>
<th>CPLNI S.S</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>0.067</td>
</tr>
<tr>
<td>Psychological Issues</td>
<td>0.065</td>
</tr>
</tbody>
</table>
Summary

This chapter provided the statistical analysis and descriptive information for the research questions that guided the study. The study examined nurses and patients’ perceptions of the cardiac patient’s learning needs. From the data analysis, both sample groups felt that the area of medication information was most important as a learning need for the cardiac patient, and the area of least importance to both sample groups was the area of physical activity. The study found that there was a statistically significant difference between the nurses’ gender, and the ranking of anatomy and physiology, psychological issues, medication information, physical activity, and other information. There were also statistically significant differences evident with the nurses’ degree, and the ranking of psychological factors, and physical activity. The cardiac patients with the comorbidity Diabetes Mellitus showed a strong interest in the area of risk factors and felt that this area was of importance. No statistical differences were found with the patients’ demographics and the subscales of the CPLNI. This study reflected on the areas of importance to the cardiac patient allowing the healthcare profession insight on what to focus on during education. Discussion of findings and professional application are discussed in the next chapter.
CHAPTER FIVE
DISCUSSION

Coronary heart disease is the single leading cause of death in the United States. According to the American Heart Association, cardiovascular diseases are responsible for the lives of 41.4% of more than 2.3 million Americans who die each year. Nearly 59 million Americans have some form of cardiovascular disease, ranging from congenital heart defects to high blood pressure and atherosclerosis. The purpose of this study was to compare the perceptions of cardiac patients with those of cardiac nurses concerning the patient’s educational needs for maintaining a healthy heart. The sample consisted of 38 participants, 18 cardiac nurses and 20 cardiac patients, and was obtained from a North Florida community hospital. This chapter will discuss the findings of the study, theoretical framework, limitations, assumptions, strengths, implications for nursing practice, and recommendations for future research.

Discussion of Findings

From the data analysis and review of the literature, there is a consistent finding that study subjects do perceive the area of medication information as a top educational need. The patients in the current study perceived that information regarding medication information was the most important as an educational need ($M = 4.61, SD = 0.65$). The category ranked least important, according to the data, was physical activity ($M = 3.99, SD = 0.62$). The second question, what are the nurses’ perceptions of educational needs of the cardiac patient, was explored using descriptive statistics. The nurses too ranked the category of medications as most important ($M = 4.55, SD = 0.51$) and physical activity as least important ($M = 4.32, SD = 0.62$).

The study conducted by Gerard & Peterson (1984) where the CPLNI originated had similar results within their study. Gerard & Peterson (1984) focused on the educational needs of cardiac patients in the coronary care unit, CCU, and those post discharge. The patients in the CCU and post discharge ranked the area of risk factors as the most important for educational needs. The CCU patients ranked the category of medication information as the second most important educational need. The CCU patients ranked the area of diet information as least
important whereas the post discharge patients ranked the area of anatomy and physiology as least important. The nurses used within this study were CCU and post CCU nurses. Both CCU and post CCU nurses ranked the category of medication information as most important. The CCU nurses ranked the category of diet information as least important whereas the post CCU nurses ranked the area of anatomy and physiology as least important. The current study was similar to the study conducted by Gerard & Peterson (1984) in its design and use of the CPLNI to assess patient learning needs. The study conducted by Gerard & Peterson (1984) assessed the learning needs of both CCU patients and those post discharge, as well as the CCU and post CCU nurses. The current study only assessed those patients post CABG in the progressive care unit, PCU, prior to discharge. The study population was slightly different with Gerard & Peterson surveying both CCU and post CCU patients and nurses, while the current study surveyed only those patients and nurses in the PCU. Gerard & Peterson found that patients in the CCU and post CCU rated risk factors as most important with medications being second.

A second study by Karlik & Yarcheski (1987) focused on learning needs of patients in the ICU and after discharge. Patients in the ICU ranked the risk factors as most important while those who were post discharge ranked medication information as most important. The nurses in the above studies and current study consistently rated medication information as most important. The patients differed only slightly with some rating medication as most important and others rating risk factors as most important. There was no pattern to this although those patients post discharge seemed more concerned with medication information than risk factors. This might be attributed to the fact that while in the hospital they had no control or input into medication. Once home, they had to attend to their own medicines and became more aware of the need to be knowledgeable about actions and side effects. In all the studies, the nurses considered medication information as most important, likely because medication administration is one of the most important functions of the nurse, and reduction of risk factors is something that only patients can do for themselves.

Ashton (1997) conducted a study using the CPLNI to assess the learning needs of men and women post myocardial infarction. Ashton focused only on patients and was interested in gender differences in learning needs. Comparisons of the mean ratings of the categories in the CPLNI by gender were performed using independent t test. Although there were no statistical differences found, the study results did indicate that women rated medication information as
most important while men rated risk factors as most important. The findings of Ashton’s study are congruent with findings from previous studies as well as the current study. Medication information and risk factors are the two areas consistently perceived to be important.

Regardless of gender or specific kind of cardiac event, it is clear from the results of the current and prior studies that information regarding risk factors and medications are considered the two most important areas for education by cardiac events. It was encouraging that the nurses also regarded these two areas as most important, although they consistently rated medication as first and risk factors as second, whereas the patients varied in their order of importance for these two areas. The consistent findings of patients perceiving medication information and risk factors as most important may be related to the nurses’ beliefs. The nurses may strongly emphasize the areas of medication information and risk factors during discharge teaching, therefore, patients may perceive these areas most important.

A statistically significant difference was also evident with the nurse’s degree related to psychological factors and physical activity. The data showed that the nurses with a BSN degree rated psychological factors and physical activity as more important than nurses without a BSN degree. Nurses with BSN degrees are required before admission into the program, to take extensive coursework in psychology, sociology, nutrition, and microbiology. This could possibly explain why there are the differences in the data. The different schools and education levels of nurses may influence the nurses’ perceptions of areas that are most important during discharge teaching.

The only statistically significant differences found between the patients’ demographic variables and the seven subscales of the CPLNI were in patients who had Diabetes Mellitus. Eight (40%) of the patients had Diabetes, as well. These patients showed a strong interest in the area of risk factors and felt that this area was of importance \((p = 0.038)\). According to the American Heart Association, having diabetes is a major risk factor for the development of CAD. In fact, the development of CAD dramatically increases in those individuals with diabetes and CAD is the number one killer in patients with diabetes (Healy, 2003). Patients with diabetes may be more aware of the importance of comorbid risk factors and of the need to minimize these risks. So, the nursing profession needs to emphasize to patients with diabetes their risks of the development of CAD to assure lifestyle modifications are made early in the disease process before complications occur.
Theoretical Review

Imogene King’s (1981) Interacting Systems Framework and Theory of Goal Attainment were selected to serve as the framework for this study because it focuses on the interactions among nurses and patients and mutual goal attainment. According to King (1989), “It is a characteristic of a human process of interaction and along with communication, provides channel for passage of information from one person to another” (p. 7). This framework focuses on the interaction that takes place between a nurse and patient. The educational process between patient and nurse is one example of the interaction process.

When interaction between the patient and nurse occurs, goals are formed. Whether these goals are achieved is dependent on the amount of communication between the individuals involved. Patients who have CAD and have undergone a CABG need to make modifications to their daily life to improve their health status, and attempt to decrease further development of CAD. Through identifying the needs of the patient, the nurse and patient can construct goals to accomplish needed lifestyle changes, then the nurse and patient can work together to attain those goals.

King’s theory was supported with the findings from the current study. One of the main purposes of the relationship that the nurse builds with the patient is to mutually establish goals. From the constant interaction between the nurse and patient, nurses assess the patient’s needs, collect client data, and share appropriate information with the patient in order to achieve the goals (Hamptom, 1994). Goal attainment is greatly influenced by the process of perceptions and communication (King, 1981). The outcome of the study closely parallels King’s theory because both the patient and nurses perceived the area of medication information as most important. It is the goal for these congruent perceptions to take place through ongoing active communication.

Limitations

There were limitations encountered throughout the study. The first limitation encountered by the researcher was the sample size. The original sample size was to include 20 patients and 20 nurses. Only 18 of the 20 cardiac nurses responded to the questionnaires that were provided to them. The hospital used for this study was a private hospital serving the upper, middle-class population, therefore, limiting generalizability. Also, the researcher is unable to generalize the findings to African American nurses because none participated. External forces such as family members and friends may have influenced the way that patients answered the
questionnaire. Nurses may have answered the questionnaires based on the answers of coworkers. Physicians and nurses may have influenced patient’s perceptions of educational needs.

**Strengths**

One of the main strengths concerning this study was that there was a vast amount of information regarding patient education. Also, there have been several studies implementing the CPLNI allowing the researcher to compare and validate findings from the current study with those of past studies. This reinforces the idea of medication and risk factor information as being the top educational needs. Various topics that are perceived by patients to be important have been identified. These findings can allow the nurse to focus on these areas during the educational process, which could lead to more favorable outcomes for the cardiac patient.

**Implications for Nursing Practice**

This study is relevant to the nursing profession as a whole. Due to the constant patient and nurse interaction, goal attainment can be successful to reduce further progression of CAD when appropriate lifestyle modifications are implemented into the patient’s daily living. Properly educating patients about a disease process is important to the Advanced Practice Nurse (APN). As a Clinical Nurse Specialist (CNS), it is vital to be aware of patients’ educational needs so that information is directed at those areas. Either a CNS or nurse educator functioning within the hospital may be able to design educational programs that begin with proper assessment by nurses caring for these patients to insure that educational needs are met. Also, by identifying the educational gaps between patients and nurses, the nurse educator can develop and educate the nurses on the areas that are appropriate for the patient and how to properly assess the patient’s needs.

The Nurse Practitioner (NP), as well, plays an intricate role in the educational process of these patients. The NP follows patients in outpatient settings after cardiac surgeries, such as CABG, and must continue assessing for educational needs in order to minimize the further development of CAD. The NP educates patients according to their needs, as well as those lifestyle modifiers that should be implemented to prevent further progression of CAD. All members of the health care team must assist the client and their family in accepting the changes brought forth by chronic illness such as CAD. The client, family, and the health care team can
achieve the goal of acceptance and health promotion through active participation and communication.

Clinical Nurse Specialists can take the lead in constructing generalized teaching plans to be utilized in all hospitals to ensure that all cardiac patients are receiving the same adequate information. This would possibly decrease any discrepancies among hospital educational programs. Also, the patients would receive information that is not solely based on the information that their healthcare provider deems important, but also on the patients’ priorities. Healthcare providers need to assess the patient and their family members for further educational needs. Patients may require individualized teaching plans and goals in addition to the generalized teaching plan utilized by the hospital, and patients should receive typed or written instructions based on their educational needs.

Recommendations for Future Research

From the findings, there have been several areas found regarding educational issues that would benefit from further research. There have been several studies done implementing the use of the CPLNI to assess the cardiac patient’s educational needs. The results of the studies, including the present study, are consistent. However, recommendations for further research, based on the current study findings, include examining the differences of perceptions of the male and female nurse regarding cardiac patient’s needs. There were statistically significant differences found with the nurse’s gender and the areas of anatomy and physiology, psychological issues, medication information, physical activity, and other information. The nursing profession is no longer a female profession. Research assessing the differences of perceptions between genders will bridge the gaps in relaying information to the patient throughout well-designed educational programs that are not biased.

Another area for research is to explore the educational levels of nurses (i.e. AA, BSN) and their perceptions of patient needs. From the data analysis, there were statistically significant differences found between nurses with a BSN degree and those without in their ranking of patient educational needs. More information is needed on patient educational perceptions between nurses with a Bachelors of Science degree and Associate degree nurses.

Research should continue to focus on identifying patients’ educational needs to assure that the nursing profession as a whole succeeds in meeting those needs. A recommendation for further research would be to explore the perceptions of patients exposed to generalized teaching
plans and those that are not. Too often patients perceive the information that is presented to them as the only information that is important. This research could possibly conclude that perceived needs by the patient are dependent on the information that is presented to them that the healthcare provider deems important.

Summary

This chapter has discussed the findings of the study, theoretical framework, limitations, assumptions, strengths, implications for nursing practice, and recommendations for future research concerning this topic. The results summarized that patients and nurses perceive the same areas as important and not important, which are consistent with previous studies implementing the CPLNI. There is still a need for examining the differences in the nurse’s gender and perception of patient’s educational needs as well as research focusing on the differences in nurses’ level of education and their perceptions of patients’ educational needs.

Continued research on identifying patients’ educational needs will benefit patients by providing them with information that they deem important. This study’s results have added to the nursing knowledge base that patients continue to perceive medication and risk factor information as top educational needs. Nurses can focus on these areas during educational periods, but must assess all needs of the patient.

With each nurse applying Imogene King’s (1981) Interacting Systems Framework and Theory of Goal Attainment into their daily practice, open communication between the nurse and patient will be exchanged, goals will be established, and goals will be attained. Nurses must continue to implement the first stage of the nursing process, assessment, to assure that patients are receiving the information that is needed. This study’s results have added to the nursing knowledge base that patients continue to perceive medication and risk factor information as top educational needs. Nurses can focus on these areas during educational periods, but also nurses need to assess all needs of the patient.
APPENDIX A
NURSE’S INFORMED CONSENT
To Whom It May Concern:

My name is Jana Bailey, R.N., B.S.N., and I am a graduate student at the Florida State University School of Nursing. I am asking you to participate in a research study I am conducting as part of my education. This study is aimed at identifying the cardiac patient’s educational learning needs. If you would like to participate, you will be given two forms to complete, a demographic sheet and a questionnaire.

By signing this authorization form, you will agree to participate in this study. When answering the questionnaire there is considered to be minimal emotional stress related to the questions and answers provided to you. If at anytime you do not feel comfortable answering the questions you can stop filling out the questionnaire. Please remember that your participation is completely voluntary and you can quit at anytime. If you do not sign this authorization document, you cannot participate in this study and you will not be treated under the research process.

The questionnaire provided to you is coded numerically, meaning that you will only be identified by a number. At no time will you be asked to provide your name on the two forms. This is to ensure patient confidentiality, to the extent allowed by law. My instructor and myself will have access to these completed forms and will be kept by the researcher for exactly three years from the collection date.

There will be no money reimbursement for your time spent completing the forms. Both the questionnaire and demographic form will be of no financial burden to you as the participant. Your participation will help identify any inconsistencies of nurse and patient educational perceptions in order to properly educate patients in the future.

You may cancel this authorization document by calling the following phone number (850) 644-3296. If the researcher has already included your answers to the questionnaire and patient demographic form into the research database your results will not be able to be omitted due to your completed questionnaire and demographic form being numerically coded. If you have any questions and concerns, please feel free to contact me, Jana Bailey, R.N., B.S.N, at 850-644-3296, my instructor Dr. Laurie Grubbs, PhD, ARNP at 850-644-3296, or Florida State University’s Institutional Review Board at 850-644-8632.

By signing this consent you are agreeing to the following:

I freely and voluntarily and without any element of force or coercion, consent to be a participant in the research project entitled “Comparison of Patient and Nurse’s Perceptions of the Cardiac Patient’s Educational Needs.” I will be asked to complete a demographic form and questionnaire about my perception of the cardiac patient’s educational needs.

I understand my participation is voluntary and I may stop at anytime. All my answers to the questionnaire and demographic form will be kept confidential, to the extent allowed by law, and identified by a subject code number. My name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported.

I understand that there is a minimal possibility that I will experience anxiety. I will not be financially reimbursed for my time. If I have any concerns, I will call the above persons.

Participant signature: __________________________ Date:_____________

Thank you, Jana Bailey, R.N., B.S.N.
APPENDIX B
PATIENT'S INFORMED CONSENT
To Whom It May Concern:

My name is Jana Bailey, R.N., B.S.N., and I am a graduate student at the Florida State University School of Nursing. I am asking you to participate in a research study I am conducting as part of my education. This study is aimed at identifying the cardiac patient’s educational learning needs. If you would like to participate, you will be given two forms to complete, a demographic sheet and a questionnaire.

A privacy rule was issued to protect the privacy rights of patients. This rule was issued under law called the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The Privacy Rule is designed to protect the confidentiality of your health information. This document, called an “Authorization,” explains how your health information will be used and disclosed. For this particular study though, your personal health information will not be accessed and does not apply to your participation. Your participation entails filling out a questionnaire based on your perception of educational needs. Your name will only be listed on this authorization form if you desire to participate. Once the forms presented to you have been completed, the nurse will separate this authorization form from the completed questionnaire and demographic form. A copy of this form will be placed in your medical record by the Clinical Nurse Specialist. Also, your name will be given to the hospital’s Risk Management Department by the Clinical Nurse Specialist of your participation to ensure your safety during participation in the study.

By signing this authorization form, you will allow the nurse to present to you the two forms. When answering the questionnaire there is considered to be minimal emotional stress related to the questions and answers provided to you. If at anytime you do not feel comfortable answering the questions you can stop filling out the questionnaire. Please remember that your participation is completely voluntary and you can quit at anytime. If you do not sign this authorization document, you cannot participate in this study and you will not be treated under the research process.

The questionnaire provided to you is coded numerically, meaning that you will only be identified by a number. At no time will you be asked to provide your name on the two forms. This is to ensure patient confidentiality, to the extent allowed by law. My instructor and myself will have access to these completed forms and will be kept by the researcher for exactly three years from the collection date.

There will be no money reimbursement for your time spent completing the forms. Both the questionnaire and demographic form will be of no financial burden to you as the participant. Your participation will help identify any inconsistencies of nurse and patient educational perceptions in order to properly educate patients in the future.

You may cancel this Authorization by calling the following phone number (850) 644-3296. If the researcher has already included your answers to the questionnaire and patient demographic form into the research database your results will not be able to be omitted due to your completed questionnaire and demographic form being numerically coded. Also, the results of this study will in no way benefit you during your hospitalization. If you have any questions and concerns, please feel free to contact me, Jana Bailey, R.N., B.S.N., at 850-644-3296, my instructor Dr. Laurie Grubbs, PhD, ARNP at 850-644-3296, or Florida State University’s Institutional Review Board at 850-644-8632.
By signing this consent you are agreeing to the following:

I freely and voluntarily and without any element of force or coercion, consent to be a participant in the research project entitled “Comparison of Patient and Nurse’s Perceptions of the Cardiac Patient’s Educational Needs.” I will be asked to complete a demographic form and questionnaire about my perception of the cardiac patient’s educational needs.

I understand my participation is voluntary and I may stop at anytime. All my answers to the questionnaire and demographic form will be kept confidential, to the extent allowed by law, and identified by a subject code number. My name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported.

I understand that there is a minimal possibility that I will experience anxiety. I will not be financially reimbursed for my time. If I have any concerns, I will call the above persons.

Participant signature: __________________________ Date:_____________

Thank you, Jana Bailey, R.N., B.S.N.
APPENDIX C
CARDIAC PATIENT LEARNING NEEDS INVENTORY TOOL
CAR DiAC Pa TIENTS LEARN ING NEEDS INVENTORY

Please rate each of the following informational items as to the degree of importance it has for yourself and other patients with heart disease. Please check one column for each item.

<table>
<thead>
<tr>
<th>I need to know:</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not Important</td>
</tr>
<tr>
<td><strong>Anatomy and Physiology</strong></td>
<td></td>
</tr>
<tr>
<td>1. Why do I have chest pain?</td>
<td></td>
</tr>
<tr>
<td>2. What my heart looks like and how it works?</td>
<td></td>
</tr>
<tr>
<td>3. What causes a heart attack?</td>
<td></td>
</tr>
<tr>
<td>4. What happens when someone has a heart attack?</td>
<td></td>
</tr>
<tr>
<td>5. How my heart heals.</td>
<td></td>
</tr>
<tr>
<td>6. Why my heartbeat may be irregular or I may have “skipped beats?”</td>
<td></td>
</tr>
<tr>
<td>7. The thoughts and feelings of having an illness.</td>
<td></td>
</tr>
<tr>
<td>8. The importance of talking with someone about my fears, feelings, &amp; thoughts</td>
<td></td>
</tr>
<tr>
<td>9. What effect stress has on my heart?</td>
<td></td>
</tr>
<tr>
<td>10. What can I do to reduce stress while in the hospital?</td>
<td></td>
</tr>
<tr>
<td>11. What can I do to reduce stress when I go home?</td>
<td></td>
</tr>
<tr>
<td><strong>Risk Factors</strong></td>
<td></td>
</tr>
<tr>
<td>12. What the term risk factor means?</td>
<td></td>
</tr>
<tr>
<td>13. Which risk factors may have contributed to the onset of my heart disease?</td>
<td></td>
</tr>
</tbody>
</table>
I need to know:

<table>
<thead>
<tr>
<th>Question</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. What can I do to decrease my chances of having another heart attack?</td>
<td></td>
</tr>
<tr>
<td>15. What my diet restrictions are, if any?</td>
<td></td>
</tr>
</tbody>
</table>

**Medication Information**

<table>
<thead>
<tr>
<th>Question</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. General rules about taking my medications?</td>
<td></td>
</tr>
<tr>
<td>17. Why am I taking each of my medications?</td>
<td></td>
</tr>
<tr>
<td>18. What the side effects of each medication are?</td>
<td></td>
</tr>
<tr>
<td>19. What to do if I have any problems with my medications?</td>
<td></td>
</tr>
</tbody>
</table>

**Diet Information**

<table>
<thead>
<tr>
<th>Question</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. General rules about eating.</td>
<td></td>
</tr>
<tr>
<td>21. How diet affects my heart disease?</td>
<td></td>
</tr>
<tr>
<td>22. What the words cholesterol and triglycerides mean?</td>
<td></td>
</tr>
<tr>
<td>24. What my diet restrictions are, if any?</td>
<td></td>
</tr>
<tr>
<td>25. How to adapt the recommended diet to my lifestyle?</td>
<td></td>
</tr>
</tbody>
</table>

**Physical Activity**

<table>
<thead>
<tr>
<th>Question</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Why am I not able to do as much physically as I was before I had the heart attack?</td>
<td></td>
</tr>
<tr>
<td>27. General guidelines for physical activity.</td>
<td></td>
</tr>
<tr>
<td>28. What my physical activity restrictions are, if any?</td>
<td></td>
</tr>
<tr>
<td>29. How to tell if I can increase my activity?</td>
<td></td>
</tr>
<tr>
<td>I need to know:</td>
<td>Degree of Importance</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>30. When can I engage in sexual activity?</td>
<td>Not Important</td>
</tr>
<tr>
<td>31. How to take my pulse?</td>
<td></td>
</tr>
<tr>
<td>32. The signs and symptoms of angina and a heart attack.</td>
<td></td>
</tr>
<tr>
<td>33. The signs and symptoms of congestive heart failure.</td>
<td></td>
</tr>
<tr>
<td>34. When to call the doctor?</td>
<td></td>
</tr>
<tr>
<td>35. If any other tests will be done after I leave the hospital?</td>
<td></td>
</tr>
<tr>
<td>36. The reason for further testing after I go home?</td>
<td></td>
</tr>
<tr>
<td>37. Where my family can go to learn CPR?</td>
<td></td>
</tr>
</tbody>
</table>

*Other Pertinent Information*
APPENDIX D
NURSE DEMOGRAPHIC FORM
Nurse’s Demographic Data Sheet

1. What is your age in years: _____ years

2. Are you:
   (Select One)
   ____ White, non-Hispanic
   ____ African American
   ____ Hispanic
   ____ Asian
   ____ Other, please specify

3. What is your marital status:
   (Select One)
   ____ Single
   ____ Married
   ____ Divorced
   ____ Widowed

4. Are you:
   (Select One)
   ____ Male
   ____ Female

5. How many years have you been a Registered Nurse: _____ years

6. How many years have you been practicing as a cardiac nurse: _____ years

7. What is your current employment status:
   (Select One)
   ____ Full time
   ____ Part time
   ____ PRN

8. What degree do you have in Nursing:
   (Select One)
   ____ AA or AS
   ____ B.S.N.
   ____ M.S.N.

9. Do you have any experience teaching cardiac patients:
   (Select One)
   ____ yes
   ____ no

10. Which best describes your teaching plan:
    (Select One)
    ____ Use standardized teaching plan
    ____ Modified existing teaching plan
    ____ Other, please explain________

Subject Code#________
APPENDIX E
PATIENT DEMOGRAPHIC FORM
Patient’s Demographic Data Sheet

1. What is your age in years:     ____ years

2. Are you:
   (Select One)
   ____ White, non-Hispanic
   ____ African American
   ____ Hispanic
   ____ Asian
   ____ Other, please specify________
   ______________________________

3. What is your marital status:
   (Select One)
   ____ Single
   ____ Married
   ____ Divorced
   ____ Widowed

4. Are you:
   (Select One)
   ____ Male
   ____ Female

5. What is your level of education:
   ____ High School
   ____ Some College
   ____ AA or AS
   ____ Technical Institute
   ____ Bachelors Degree
   ____ Masters Degree
   ____ Doctorate Degree

6. What is your occupation:
   ______________________________

7. Besides cardiac disease, do you have any other chronic illness/ diseases:
   ____ no
   ____ yes (If so, please specify below)
   ______________________________

8. Have you previously been in the hospital for a cardiac condition:
   previous cardiac condition:
   ____ yes
   ____ no

9. Have you ever had previous cardiac teaching:
   ____ yes
   ____ no

Subject Code#_____
APPENDIX F

FLORIDA STATE UNIVERSITY IRB APPROVAL TO CONDUCT STUDY
Office of the Vice President
For Research
Tallahassee, Florida 32306-2763
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM
Human Subjects Committee

Date: 6/16/2003

Jana Bailey
3348 County Rd 252
Welborn, FL 32094

Dept.: Nursing

From: David Quadango, Chair

Re: Use of Human Subjects in Research
Patients and Nurses' Perceptions of the Cardiac Patient's Educational Needs

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b) 2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by 6/15/2004 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Dr. Laurie Grubbs
HSC No. 2003.324
APPENDIX G

HOSPITAL APPROVAL TO CONDUCT STUDY
May 28, 2003

Jana Bailey, RN, BSN
3348 County Road 252
Wellborn, Florida 32094

RE: Study "Comparison of the Patient and Nurse’s Perception of the Cardiac Patient’s Educational Needs"

Dear Ms. Bailey:

The Tallahassee Community Hospital’s Institutional Review Board (IRB) thanks you for attending our May 6, 2003 meeting to present your above research proposal to the Committee. The Tallahassee Community Hospital’s (TCH) IRB has approved your research study utilizing coronary bypass patients in the hospital’s Progressive Care Unit.

Per the TCH IRB’s policies, we require:

- completion of the Office for Human Research protection (OHRP) course on the web site www.oahrp.osophs.dhhs.gov/educmat.htm;
- a copy of the signed consent for each patient to participate in your study placed in the patient’s medical record;
- a list of the patients’ names, medical record #s and the date of the patients’ hospitalization at the completion of your study;
- a report to the TCH IRB on the progress of your study at least annually;
- immediate notification of the hospital’s Risk Manager, Linda Deeb (telephone # 656-5056), regarding any adverse patient incident or patient complaint related to the conduction of your study.

The Tallahassee Community Hospital Institutional Review Board is looking forward to the review of your research findings. Please address any correspondence to Linda Deeb, Risk Manager, Tallahassee Community Hospital.

Sincere best wishes,

Jeffrey L. Armstrong, M.D.
Chairman, TCH IRB
APPENDIX H

AUTHOR APPROVAL TO USE CPLNI
March 7, 2003

Jana Bailey, R.N., B.S.N.
253 Hayden Road
Apt. 226
Tallahassee, FL 32304

Dear Jana:

Thank you for your interest in my research on “Learning Needs of Cardiac Patients.” I’ve enclosed a copy of the CPLNI as you requested. You have my permission to duplicate either the entire tool or portions of the tool appropriate to your research questions for use in your study. However, you should realize that the reliability coefficient for the amended scale may differ from that of the complete scale. Information on the reliability and validity of these tools is provided in my article in Cardiovascular Nursing and in an article by Karlik in Heart & Lung.

If you decide to use these instruments, I ask that you send me a summary of the results of your study including demographic information on your sample. If you have any questions you may call me at (219) 989-2821 or write me at Purdue University using the address listed on the bottom of this sheet.

I wish you success with your research study.

Yours truly,

Peggy S. Gerard, DNSc, RN
Dean & Professor of Nursing
REFERENCES


BIOGRAPHICAL SKETCH

Jana Bailey was born in Lake City, FL. She graduated from Florida State University with her BSN degree in 2002. She will graduate from Florida State University with her Masters of Science degree in the Family Nurse Practitioner track in May 2004. After graduation, Jana plans to move to Jacksonville to practice in a Family care setting after her wedding in June.