

CHAPTER 1

OVERVIEW OF THE STUDY

1.0 INTRODUCTION

In recent years, education has come to be considered as an integral component of care for patients after myocardial infarction, (Chan, 1990:1139). This study explores the information needs of 40 patients who had recently suffered from myocardial infarction in Johannesburg and compares their views to those of 36 intensive care nurses working in a coronary care unit and cardiothoracic intensive care. Data collected from this study could assist critical care nurses in tailoring inpatient information more accurately to the needs of those who receive it, making provision more useful and relevant to myocardial infarction patients.

The World Health Organization supports promotion of healthy living lifestyles in international health care (WHO, 1985). This view is echoed by the South African Nursing Council (SANC) by explaining the role of the registered nurse as encompassing curative, rehabilitative and promotive aspects of healthcare.

1.1 BACKGROUND OF THE STUDY

Cardiac rehabilitation programs aim to improve patients' long term survival and recovery, through education on risk factor management (Timmins & Kaliszer, 2003). Education programs are being offered in the post discharge period to patients recovering from myocardial infarction (coronary artery syndrome), post cardiac bypass surgery and angiography. Despite this recognition, there is little education for patients in the acute phase, such as when the patient is still in the coronary care unit. Thomas (2001) observed that there was often little by way of structured education programs during the acute phase, while patients were still in the coronary care unit. Timmins (2005) affirms education in the hospital setting and initial discharge period is less well evolved, and even lacking. Hospital stays are becoming shorter, reducing the opportunities for nurses to provide pre-discharge information to the patients. This highlights the challenge of adequately assessing and meeting patients' information needs (Smith & Liles, 2007).

Studies have examined the effectiveness of individual cardiac programmes (Fletcher, 1987; Steele & Ruzicki, 1987). Increasingly, studies have also focused on understanding the information that patients need to know after cardiac events or surgery (Gerard & Peterson, 1984; Timmins & Kaliszer, 2003; Turton, 1998). It may be extrapolated from these studies, that it is important to know which cardiac rehabilitation programs had improved patient outcomes. Similarly, it was also of benefit to ask patients directly what they needed to know and to use this information to inform local practice. Research is also influenced by international trends and the World Health Organization (WHO, 1985), has also taken a shift towards promotion of healthy lifestyles in health care. An influential aspect arising from these developments was the recognition of the important role of the nurse in health promotion (Timmins, 2005).

Studies have identified patient's needs in the acute phase period. This led to the emphasis on the establishment of Coronary Care Unit (CCU) based education programs (Mirka, 1994; Wang, 1994). Mirka (1994) supports the notion of the need to assess patient's prior experience, readiness to learn and self concept. Whereas, Wang (1994) aimed at identifying myocardial infarction patients perceived learning needs. Further, this author established that patients' needs vary tremendously. Knowles (1989) defined a learning need as the gap between competencies specified and the present level of development by the learner. The crucial element in the assessment of the "gap" is the learners' own perception of the discrepancy between where they are now and where they want to be.

In another study, Gerard and Peterson (1984) developed the cardiac patient learning needs inventory (CPLNI). It contained eight categories (clusters) relevant to cardiac teaching. In this original study, nurses and patients were asked to rank the importance of each category in the CCU- recovery and discharge period. Subsequently, the categories were 'introduction to the coronary care unit, psychological concerns, risk factors, information and medication, dietary information, and miscellaneous information.

The cardiac patient learning needs inventory (CPLNI) has been used extensively in studies from different parts of the world (Chan, 1990; Turton, 1998; Wingate, 1990). From these studies it may well be concluded that patients with a diagnosis of acute myocardial infarction or angina rank as highest symptom management in the recovery period while cardiac anatomy and physiology ranked highest in the discharge period. Lowest priorities

during both phases were smoking, work and sex. It was reported that there is little difference between intensive care nurse and patient groups (Turton, 1998).

This is in contrast to earlier studies by (Gerard & Peterson, 1984; Wingate, 1990) using the CPLNI, the category “risk factors” emerged as the primary concern of both patient groups, whereas (Chan, 1990) using the same instrument reported the category of “medications” as highest overall mean score from patients. However, it suggests that intensive care nurses are able to correctly perceive the importance of patients’ information needs. Therefore this study aimed to describe and compare intensive care nurses’ and patients’ perception of information needs of acute myocardial infarction patients.

1.2 PROBLEM STATEMENT

Studies conducted in UK and USA support the positive effects of structured education programs for patients recovering from acute myocardial infarction in the post discharge period. As such, there is a lack of information for patients in the intensive care unit recovery and discharge period. There is concern that if patients’ information needs are not addressed it may have an impact on their recovery. This will lead to poor outcome, such as long term health related consequences requiring hospital readmission.

Intensive care nurses, by virtue of close and continuous proximity, are ideally positioned to provide patients with the necessary information to meet their needs. The ultimate aim of education programs is to assist patients to adjust to changing circumstances. No studies were found to-date in South Africa that specifically addressed information needs of patients in the intensive care/ coronary care setting. It is important that intensive care nurses possess an understanding of age-related patients’ information needs in order to ensure the provision of individualized care.

Therefore this study proposes to elicit the information needs of acute myocardial infarction patients in the South African setting using both patients and intensive care nurse perspectives.

1.3 PURPOSE OF THE STUDY

The purpose of the study was to describe and compare intensive care nurses' and patients' perceptions of information needs of acute myocardial infarction patients at a public sector tertiary hospital in Johannesburg. The study will make recommendations for clinical practice and education of intensive care nurses.

1.4 RESEARCH QUESTIONS

- In the opinion of patients, who have experienced an acute myocardial infarction what information do they consider important to meet their needs?
- In the opinion of intensive care nurses what information do they consider important to meet the needs of acute myocardial infarction patients?
- Are there similarities and/or differences of opinions of the importance of information needs between patients and intensive care nurses?

1.5 RESEARCH OBJECTIVES

- To assess the patients' perceptions of the importance of the items on the cardiac patients learning needs inventory (CPLNI).
- To assess the intensive care nurses' perceptions of the importance to patients of the items on the cardiac patients learning needs inventory (CPLNI).
- To compare patients' perceptions with those of the intensive care nurses.

1.6 RESEARCHER'S ASSUMPTIONS

This is formed by a paradigm which is a world view or a general perspective on the complexities of the real world (Polit & Beck, 2008: 13). The assumptions of the researcher are as follows:

1.6.1 Meta – Theoretical Assumptions

According to Botes (1993: 11), Meta theoretical assumptions are non – testable beliefs that are accepted to be true by the researcher. The Meta theoretical assumptions reflect the researcher's view of a person, environment, nursing and health / illness. The researcher's Meta – theoretical assumptions regarding these concepts therefore, were as follows:

- **Person**

The person in this case includes the patient, the intensive care nurse and the doctor or other team members. The critical care patient is a person in critical situation of life instability with precarious physical and psychological balance subject to continuous care (Pitacco, Silvestro & Drigo, 2001: 27). The critically ill patient in ICU is vulnerable and needs skilled and experienced personnel in order to have their health care needs met.

The intensive care nurse is central in the context of this study. The nurse is present at the patients' bed side twenty four hours a day, and is therefore the key to provision of quality nursing care to each individual patient according to their unique and specific needs. In order to provide this quality care, adequate skills and knowledge are essential.

- **The environment**

The environment is the total context of the person's surrounding that has influence on his or her physical, psychological, emotional and behavioural well being. The environment can be external and internal, negative or positive in terms of all the conditions and circumstances that influence the surrounding and behaviour of the person. In this study, the environment is the ICU setting. The ICU environment is subject to complex technological advances. This new, unfamiliar and complex setting can be a source of stress to the ill patient as well as to the family.

- **Nursing**

Caring for the unstable critically ill patient in ICU in life – threatening situations requires a nurse who can provide competent and holistic care through the integration of advanced level knowledge and skills.

The synergy theoretical perspectives outlined that the patients' needs should match the nurses' competences for better patient outcomes (Alspach, 2006: 4). The underlying premises of the synergy model are as follows: patients' characteristics are of concern to

nurses; nurse's competencies are important to patients; patients' characteristics drive nurses' competencies. When patients' characteristics and nurses' competencies match and synergize, outcomes for the patient are optimal (American Association of Critical-Care Nurses Certification Corporation, 2006; Hardin & Kaplow, 2005).

- **Health / illness**

A century ago, the founders of the World Health Organization (1948) defined health as a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity. Pitacco *et al.* (2001: 27) has developed a concept of health, which despite numerous critical and re-defining interventions basically tends to consider it as an “absence of illness, handicap or physical-psychological limitations”. The person in a critical or unstable life condition is a seriously ill person for whom initial care is not even aimed at restoring partial health, but towards the stabilization of the condition so that it becomes a “manageable illness”.

This process which begins from illness and moves towards health is inescapable due to the fact that the results of intensive or resuscitative intervention cannot always be predicted and without these interventions, there would be no progress to health.

1. 6. 2 Theoretical Assumptions

The following theoretical statements derived from Timmins and Kaliszer (2003:58) in relation to information needs of myocardial infarction patients suggest:

- After a cardiac event, patients view anatomy and physiology, lifestyle, medications, exercise, psychological effects and diet as areas where learning needs exist.
- In addition, nurse and patient perceptions of what constitutes priority learning differ.
- Nurses consistently attribute greater importance to the areas of medication, anatomy and physiology and resuming sexual activity than patients do.
- Timmins and Kaliszer (2003) finding also indicate that patients appear to favour practical information about their condition, its cause and prevention, whereas nurses are more focused on medical aspects of care such as medications and anatomy and physiology.

The central theoretical statement is that during illness patients might view information central to their survival as being of most importance: cardiac education programs that are based on healthcare workers' perceptions of what patients need to know about their health are unlikely to be as effective as those where the patients' perceived needs are considered. These incongruities have implications for health care delivery.

1.6.2.1 Definitions of terms for the purpose of this study

Intensive Care Nurse: a person registered by the South African Council, who has the responsibility for caring for patients in the ICU. For the purpose of this study, the ICU nurse will be categorized in the data analysis as ICU registered or general nurse without ICU qualification. These nurses are designated, full time employees at the public sector tertiary hospital. For the purpose of this study, intensive care nurses working in CCU (coronary care nurses) and those working in cardiothoracic ICU (CT ICU) were selected.

Patient: characterized by the presence of actual or life-threatening health problems, which include the requirement for continuous observation and interventions in an intensive care unit to prevent complications and restore health where possible. For the purpose of the study these critically ill patient health problems support the clinical diagnosis of acute myocardial infarction.

Intensive Care Unit (ICU): a specifically designated unit, with specialized equipment and skilled personnel for the care of critically ill patients requiring immediate and continuous attention. For the purpose of this study two intensive care units will be utilized, namely the coronary care unit and cardiothoracic at the public sector tertiary hospital. This is discussed in detail in chapter 2 of the study.

Information needs: a cardiac patient learning needs inventory (CPLNI), developed by Gerard and Peterson (1984) and adapted by Turton (1998) for use in the United Kingdom. In the present study; Timmins & Kaliszer (2003) instrument was used. The instrument comprises 37 items which can be grouped into eight sections: anatomy and physiology, psychological factors, lifestyle factors, medication information, diet information, physical activity, symptom management, miscellaneous. This is well explained in detail in **Chapter 2** of the study.

Perception: an idea or belief on how somebody views something, these may or may not be the same as other persons. In this study, the perceptions of both, patients and nurses pertaining to information needs of acute myocardial infarction patients were sought.

1. 6. 3 Methodological Assumptions

Methodological assumptions are statements that are taken for granted or are considered true, even though they have not been scientifically tested (Burns & Grove, 2007). The researcher believes in a holistic approach to patient care and a functional approach in nursing research. The expected outcome of nursing research is the use of findings to improve clinical practice. Because nursing is a practice profession, research is essential to develop and refine knowledge that can be used to improve clinical practice. When nursing follows a functional approach, nursing science becomes a practice with its purpose being to provide current knowledge to be used to generate guidelines for actions in order to make practice more effective. These actions can only be rendered in a specific context, i.e. in this case the coronary care unit which is an intensive care unit where patients' needs are taken into consideration. The researcher undertook this study with the aim of generating knowledge that is useful and applicable so as to improve nursing practice.

1.7 SIGNIFICANCE OF THE STUDY

Intensive care nurses strive to meet the needs of their patients and their family members. There is little empirical information which examines age-related information needs (Timmins, 2005), and in particular from the perspective of an older person. It would be considered unethical not to take into account patients' individual needs and preferences in both healthcare and nursing. This study strives to provide insight into the information needs of acute myocardial infarction patients. It is hoped that this will assist intensive care nurses to find new ways to enhance their abilities to not only meet individual patients' needs but also empower them to take care of their own health needs.

1.8 OVERVIEW OF RESEARCH METHODOLOGY

1.8.1 Research Design

A non-experimental, comparative, descriptive, prospective design was utilized to meet the study objectives. The reason for choosing this method was that the researcher does not intervene by manipulating the independent variable. The researcher has to describe variables and examine differences between critical care nurses and patients with a diagnosis of myocardial infarction in recovery stage while they are still in a coronary care unit, unlike in retrospective design which takes account of the past.

1.8.2 Research Methods

This study was conducted in two stages:

1.8.2.1 Stage one

Population

Stage one of the study involved validation of the cardiac patient learning needs inventory (CPLNI) by an expert group. The population of this stage consisted of cardiology doctors, critical care nurses and one patient having experienced an acute myocardial infarction.

Sample and sampling methods

In stage one, a non probability purposive sampling method was used to select the experts (n=7) to validate the data questionnaire (CPLNI) in a focussed discussion. Four cardiologists, two senior critical care nurses and one patient were invited to participate in the validation process.

Data collection

In stage one the experts who met the inclusion criteria were invited to participate in the study. Those who agreed to participate in the study were sent a letter outlining its procedures (refer Appendix A). A consent form (refer Appendix B), and the data collection instrument (refer Appendix F), consisting of the cardiac patient learning needs inventory

(CPLNI) by Timmins & Kaliszer (2003) was also sent to the participants for review. A 5 – point Likert Scale was used to assess perceptions.

Data analysis

Stage one

The biostatistician was consulted for assistance with analyzing the study data. The Kappa measure of agreement, and probability statistical tests were used to establish the tool validation in the South African setting (Johannesburg) by presenting the tool (CPLNI) to a panel of seven experts in the field of coronary care unit nursing (cardiologist Doctors and nurses), one patient was added as recommended by the postgraduate office, the cardiology medical doctors were included because of their multidisciplinary aspects. The experts both commented that all items were very important and no changes were made in accordance with the results.

1.8.2.2 Stage two

In stage two, the data collection instrument was used to gather demographic data from two groups of participants (the patients and the nurses).

Research design

A non probability purposive sampling method was used to select the expert group (n = 7) to assess face and content validity of the CPLNI. A non probability convenience sampling method was chosen to select the nurses and non probability purposive sampling method for patients' selection. This is well explained in detail in chapter 3.

Population

The target population in stage two was comprised of two groups: myocardial infarction patients in recovery stage and intensive care nurses working in CCU and cardiothoracic ICU at a public sector hospital in Johannesburg.

Sample and sampling methods

The patients' sampling was carried out in the coronary care unit (CCU) and critical care nurses' sampling was carried out in both CCU and the cardio thoracic intensive care (CTICU) due to a shortage of nurses and the statistic goal to achieve 36 nurses and 40 patients. The two ICU were used to sample data. The patients and nurses who fitted the

eligibility criteria were selected to answer the questionnaire. Both critical care nurses, and patients with myocardial infarction in the recovery phase completed the same questionnaire (CPLNI), but with a different demographic check list.

In the nursing sample, a non probability convenience sampling was used, and for the patients' sample, a non probability purposive sampling was used. These sampling methods were chosen to select the widest variety of participants who were typical of the population under study. The participants who complied with the inclusion criteria were selected. This is explained in detail in chapter 3. Following consultation with the biostatistician, it was decided that 76 participants would constitute an adequate sample size.

Data collection procedure

In stage two, permission was sought from the CEO of the health care institution to participate in the study (refer Appendix J), the cardiologists consultants and the nursing directors gave approval to access the patients with the diagnosis of myocardial infarction in the recovery stage. Data was collected by means of data collection instruments comprising two sections, namely patient data (nurse data for intensive care participants) and items derived from the cardiac patient learning needs inventory (CPLNI). The researcher administered the instruments to the participants to collect the data. A pilot study was completed prior to the main study.

Data analysis

The demographic data was analyzed using descriptive and inferential statistics to describe the characteristics of the sample group, the Cronbach alpha was used to test the reliability, and mean and median were also used to compare the two independent groups.

The Pearson product moment correlation coefficient is both a descriptive and inferential statistic, and is used to summarize the magnitude and direction of a relationship between two variables as well as to test hypotheses about population correlations respectively (Polit, Hungler & Beck, 2001). Hotellings's Paired T^2 - test was specifically applied to the study to test the difference in mean response between the first stem (CPLNI/ I need to know in the patient version) and second stem interviews (the patient needs to know). The paired T^2 - test statistically determines whether the means between the responses of the interviews are significantly different (Rosnow & Rosenthal, 1996). When comparing

interviews within the total sample Hotelling's Paired T²-test was employed using multivariate observation consisting of the total clusters (n=8) scores for anatomy and physiology, psychological factors, lifestyle, medication, dietary, physical, symptoms management, miscellaneous.

The nonparametric statistical tests of Kruskal-Wallis and Chi-square on assigning rank to the scores of various groups were used. They were used to compare the distributions of responses of the CPLNI between patients and nurses. Chi-square (X²): was used to assess dependence or otherwise of some of the factors affecting distribution of responses between patients and nurses.

A graphical method was used to express agreement on scoring individual items between patients and nurses. All these statistical procedures enabled the researcher to summarize, organize, interpret and communicate numeric information in order to meet the purpose of the study.

1.9 VALIDITY AND RELIABILITY

1.9.1 Validity

Validity was maintained by:

- The instrument was verified by the expert group.
- Seeking the advice and input from the biostatistician in data capturing, processing, analysis and interpretation of data.
- A non-threatening environment was created by assuring the participants that participation in the study was voluntary and that anonymity would be ensured.
- A random sampling method was used to prevent selection bias.
- Validity of CPLNI was assessed by a panel of experts group who consisted of a Cardiology doctor, Coronary Care Nurse (Critical Care Nurse) and a patient.

1.9.2 Reliability

Reliability was maintained:

- A pilot study was conducted.
- Data was verified by the biostatistician for accuracy.
- The researcher collected data independently.
- Data was collected at a predetermined time (from July to September 2009).
- Ensuring consistency of data collection was achieved through compliance by the research.

1.10 ETHICAL CONSIDERATIONS

Prior to the commencement of the study, ethical clearance and permission, to conduct the study was obtained from relevant committees and the hospital. Participation in the study was voluntary and the participants were free to withdraw from the study at any time. Following permission from the hospital and management who gave a verbal permission, consents were obtained from the participants. This part is discussed in detail in Chapter 3 of the study.

1.11 SUMMARY

This chapter of the research report introduced the reader to the study. The background to the study, problem statement, purpose and research questions, and research objectives of the study were stated. Paradigmatic perspectives including relevant definitions were also described. In addition an overview of the research methodology, validity and reliability, and a summary was provided.

The following chapters will include a review of the literature related to the topic under study, research design and research methods, data analysis and results and finally summary, discussion of results, conclusions, and recommendations will be given.