CHAPTER 5

SUMMARY, DISCUSSION OF RESULTS, CONCLUSIONS
AND RECOMMENDATIONS

5.1 INTRODUCTION

This final chapter presents a summary of the study, discussion of results and conclusions of the study. This is followed by a discussion of the limitations of the study and the recommendations for management, nursing education, clinical practice and for further research in this area.

The following discussion will examine the ratings of individual CPLNI items and the subscales in the light of literary sources. The responses to the open question, which elicited some valuable comments, will similarly be compared with research evidence about which information needs, myocardial infarction patients and nurses regard as important.

5.2 SUMMARY 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.

The objectives of the study were to:

- Evaluate the patients’ perceptions of the importance to them of the items on the cardiac patients learning needs inventory (CPLNI).
- Evaluate the intensive care nurses’ perceptions of the importance to patients of the items on the cardiac patients learning needs inventory (CPLNI).
- Compare patient’s perceptions with those of the intensive care nurses.
5.2.1 Methodology

This study was conducted in two stages. Stage one entailed face and content validation of CPLNI by a panel of experts group to ensure applicability of the items for the South African context. Stage two involved collection of data using the instrument CPLNI from the two intensive care (n=2) (coronary care unit and cardiothoracic ICU) in a public sector hospital in Johannesburg so as to compare the perceptions of the patients and the nurses on the information needs of myocardial infarction patients in recovery phase, and to determine concurrent and construct validity as well as inter-rater reliability of the study. The patients subjects were strictly collected from the coronary care unit.

Prior to the commencement of the study, ethical clearance and permission to conduct the study was obtained from the relevant authorities and university committees. A pilot study was conducted prior to the beginning of the main data collection phase in order to refine the methodology and data collection instrument. No changes were necessary for the instrument. A non-experimental, descriptive, prospective two phase design was utilized in order to meet the objectives of the study. Following consultation with the biostatistician, it was decided that 76 participants would constitute an adequate sample size. Using Stata 10, a sample size of 76 was computed so that in a large population, the researcher could have a 95% confidence that the proportion of the subjects obtained would fall between 12% and 40% with a power of 90%, to consider that the prevalence of the heart disease ranges between 12 and 40 percentages in South Africa. In our case, the researcher obtained a lower number although the sample was still within the acceptable minimum range of 80% power expected for the study to be reliable.

Data collection took place during the month of July, August, and September 2009. Following further consultation with the biostatistician, descriptive and inferential statistics were used to analyze that data. Non-parametric statistical tests were also used.

5.3 MAIN FINDINGS AND DISCUSSION

Seven experts took part in stage one of the study. The majority of the experts (42.85%) were between 50 – 59 years, 28.57% were between 30 – 39, whereas 14.28% were between 40 – 49 years, and 14.28% were between 20 – 29 years. All of the experts were
senior with experience and skills in the coronary care unit, the patient expert had experience in acute myocardial infarction. This was of great advantage in the validation process since this meant that they were specialists with cardiac patients and were in a good position to assess the CPLNI contents.

The majority of the experts (42,857%) had obtained a Masters degree in Medicine. Of these experts, 14, 28% had a Degree in Medicine, 14, 28% had a Masters Degree in Intensive Care Nursing whereas (14,28%) had a Diploma in Critical Care Nursing, 14,28% had an unspecified degree. This reflects that the experts had obtained appropriate training hence they had knowledge, skills and experience in the caring of the acute myocardial infarction patients given their experience and knowledge obtained in the specialty.

The majority of experts (42, 85%) were consultants (Cardiologists), whereas 14, 28% of them were Registrars, 14, 28% were shift leaders, with only 14, 28% of them being unemployed (refer. Table 4.1). This was necessary during validation of CPLNI as it required well skilled and experienced participants to achieve this task so as to ensure reliability. Using the Kappa measure of agreement statistical test, there was strong agreement that the instrument (CPLNI) was reliable.

In total, seventy six participants took part in stage two of the study. The majority of the study participants were female being 46 (60, 53%) whereas the minority were male only accounting to thirty (39, 47%) of the study participants.

The patient participants admitted to the coronary care unit were as follows: Acute coronary syndrome cases twenty five (62, 50 %), acute myocardial infarction cases four (10, 00%), non ST segment elevation myocardial infarction one (2, 50%), ST segment elevation myocardial infarction ten (25, 00%).

The instrument used in this study (CPLNI) had been used to collect data in several studies (Ashton, 1997; Chan, 1987; Gerard & Peterson, 1984; Hughes, 2000; Moynihan, 1984; Wingate, 1990). The researchers appeared to be consistently optimistic that these findings supported the teaching of the listed items to patients and believed it to be a positive indication of their value to patient (Timmins & Kaliszer, 2003).
This present researcher believes that the items of CPLNI used in this study are useful for the patient; it is a good indicator tool of coronary care nurses on the pre-discharge period of post myocardial infarction.

In examining Table 4.5, when mean scores were considered, the item one (what to do if I get chest pain?) was ranked first (very important) with a frequency of seventy five (98, 68%) over seventy six participants by both patient and nurse groups. The following clusters and their specific items were ranked very high (score greater than 90%): anatomy and physiology, two items out of five (what causes a heart attack to occur: Q3, what happens when a person has a heart attack: Q4); lifestyle factors, two items out of three (which lifestyle factors may have contributed to my having suffered a heart attack: Q11; what I can do to reduce the chances of my having another heart attack: Q12); medication information, two items out of five (why am I taking each of the medications that I am on: Q14; what the potential side effects are of each of the medications that I am on: Q16); dietary information, one item out of five (what foods may lead to raised cholesterol: Q21); symptom management, three items out of six (what to do if I get chest pain: Q30; what are the signs and symptoms of a heart attack: Q31; when to call the Doctor (GP) or an ambulance: Q32).

The following clusters and specific items were ranked high (great than 80%): anatomy and physiology, one item out of five (how long the damaged heart muscle takes to heal: Q5); psychological factors, two items out of four (what effect stress has on my heart: Q8; what I can do to reduce stress in my life: Q9); medication information, three items out of five (the general rules about taking medication: Q13; when I should take each of the medications that I am on: Q15; what I should do if I have a problem with the taking of my medications: Q17); dietary information, two items out of five (how certain items in my diet may affect my heart: Q19; what cholesterol is and what it means: Q20); physical activity, one item out of six (the general guidelines about physical activity after a heart attack: Q23); symptom management, three items out of six (the different causes in types of chest pain: Q29; when I am most likely to suffer chest pain: Q33; when and how to use the GTN spray or tablets: Q34); miscellaneous, one item out of three (what tests and investigations I will have in the future with regard to my heart: Q37).
Only the following clusters and their specific items had a score less than 80%, but they were within normal range: anatomy and physiology, only one item out of five (what the heart looks like and how it works, including the blood supply to the heart muscle: Q2); psychological factors, two items out of four (what is the usual psychological response following a heart attack: Q6); about the importance of talking to someone about my fears. Feelings and thoughts: Q7; lifestyle factors, one item out of three (what the term “lifestyle factor” means: Q10; dietary information, two items out of five (general rules about healthy eating: Q18; what changes I will need to make to my diet, if any: Q22); physical activity, five items out of six (when I can resume driving: Q24; what physical restrictions I may have, if any: Q25; how to know when I can increase my level of activities: Q26; when I can resume sexual activity: Q27; when I can return to work: Q28); miscellaneous, two items out of three (what support services are available when I am discharged home: Q35; what support is available for my family: Q36).

In examining Table 4.8 about the comparison of items for differences between population (patients and nurses), the following items had significant differences between patients and nurses: Q5 (how long the damaged heart muscle takes to heal, p = 0.013), Q8 (what effect stress has on the heart, p = 0.027), Q16 (what the potential side effects are of each of the medications that I am on, p = 0.008), Q24 (when I can resume driving, p = 0.002), Q26 (how to know when I can increase my level of activities, p = 0.002), Q28 (when I can return to work, p = 0.032), Q34 (when and how to use the GTN spray or tablets, p = 0.049), Q35 (what support is available when I am discharged home, p = 0.007), Q36 (what support is available for my family, p = 0.012), Q37 (what tests and investigations I will have in the future with regard to my heart, p = 0.015). There were subsequently significant differences with 2 items: Q 25 (what physical restrictions I may have if any, p = 0.0001), Q33 (when I am mostly likely to suffer chest pain, p = 0.0002).

The differences between responses to items in the study were mostly not significant. This must not create a false impression that those clusters were of lesser importance when in fact all items were judged important. However, patient education in cardiac care should represent negotiation between the needs of both the nurse and the patient and finding some common ground through mutual understanding. These may be areas of information, such as physical activity on which patients consistently place a low priority, yet in reality physical activity may be crucial to their overall well being and survival. It is possible
therefore, that patients need to be educated about importance of information received to enable them to focus on recovery and prevention of future events which appear to be the core of education for both patient and nurse (Timmins & Kaliszer, 2003).

In examining the results in Table 4.10, it appeared that there were some differences between the 2 groups. The patients ranked the construct symptom management as highest with a mean score of 4.925, SD 0.217, while the nurses ranked highest the construct medication with a mean score of 4.844, SD 0.291. The constructs physical activity (4.601, SD 0.397) and miscellaneous (mean 4.620, SD 0.452) were ranked lowest by the nurses while the patients ranked all the constructs very high (mean score ranging from 4.800 to 4.925) and with no significant differences.

From these results, there are divergences on the perceptions of the patients and nurses. The distribution of the patients’ responses was slightly different from those of the ICU nurses group but with no significant differences. One group agreed more on others items/constructs than another. One group was more satisfied on specific constructs than another but with no significant differences in their scores.

In examining Figure 4.3, there were some similarities. It is so encouraging to see from these results that nurses’ subjects also rated some items similarly to patients’ subjects. However, these were also some differences with nurses’ subjects rating the others items far higher than patients’ subjects and vice versa.

In examining Table 4.11 about the comparison between means with respect to constructs and study(nurse and patient) groups, the information about the following 3 constructs: physical activity (p = 0.0022), symptoms management (p = 0.0284), miscellaneous (p = 0.0054) were lower. This shows a lack of agreement. These findings could imply that patients are unaware of the importance of receiving information about the above named because these constructs were consistently lower.

The constructs anatomy and physiology (p = 0.2088), psychological factors (p = 0.5744), lifestyle factors (p = 0.1615), medication (p = 0.4588), dietary (p = 0.6551) were not significant. As a result, it would appear that nursing staff should concentrate on giving these types of information (where agreed) about post myocardial infarction, rather than
explanatory information such things as miscellaneous, physical, symptom management which were rated at a lower level.

In examining the Tables 4.12 and 4.13, the correlation between constructs for nurses and patients (the two groups), it is clear that the degree of relationship varies between the professions (nurses versus patients).

Turton (1998) found that “symptom management” and “lifestyle factors” were the most important categories of information for both the patient/partner and nurse groups, whereas Timmins and Kaliszer (2003) findings ranked category 7 (“symptom management”) first, and ranking highly (at rank 2 or 3) the categories 4 and 3 (“medication information” and “lifestyle factors”). This concurs with Turton’s findings that “symptom management” and “lifestyle factors” were the two most important categories of information for both the patient/partner and nurses groups.

The result of this study also concurs with Turton’s findings whereby category three (“lifestyle factors”) was one of the most important categories of information and also matched Timmins’ & Kaliszer (2003) findings whereby (medication information and lifestyle factors) were highly ranked.

All previous studies (Ashton, 1997; Chan, 1987; Gerard & Peterson, 1984; Hughes, 2000) reported that when patient responses were placed in rank order “risk factors” (renamed “lifestyle factors” in Turton (1998), emerged as number one. In Gerard and Peterson’s (1984) and Karlik and Yarcheski (1987) studies, nurses placed overall priority on medication. This present study supports previous findings that patient information needs changed over time (Chan, 1987; Gerard & Peterson, 1984). Turton (1998) and Chan (1990) had the same findings where “symptoms management” and “life style” factors were the two most important categories of information for both patient, spouse/partner groups. The nurse subjects also rated “life-style factors” and “symptom management” as the two most important categories of information (Turton, 1998).

In this study, all the patients have trouble with interpreting the item (NGT/TNT) in the main study during data collection, a term that is widely used in medical circles. The researcher had to supply more verbal information. The patients are more familiar with the sublingual spray or tablet.
From the results, all of the informational items included on the instrument were considered to be applicable by the patients and critical care nurses participants (all participants). No items were considered not applicable. But in a study conducted by Turton (1998), using the same instrument (CPLNI) was altered accordingly. These changes led to the CPLNI instrument used in the full study to consist of 38 items of information, in eight categories. The only items considered non-applicable by a few of the subjects, were those related to “returning to work” and these two items were not included in the results.

From this descriptive and comparative study, since nursing care needs is evidence-based, the study has some implications for practice at the study site. The results of the study have consequently been disseminated to the cardiac rehabilitation and CCU teams, the consultant cardiologist, the hospital setting manager (CEO, and the nursing service manager), and the research and development committee.

The researcher hopes that this will stimulate debate, encourage health care staff to look at the available research evidence in CR and establish knowledge base in cardiac care. The most worry of patient subjects was “is it possible for me to recover after a post myocardial infarction event”?

Also during data collection, the elderly patients verbalized more on the item Q35 (what support services are available when I am discharged home). This demonstrated the level of their worries after discharge. The researcher suggests that this must be taken into consideration to alleviate all the preoccupations through which the elderly are going.

5.4 CONCLUSION

In conclusion, the purpose of this 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 researcher hopes that we can give back the knowledge gained about this study to the people in the area to implement changes in order to meet the fundamental needs of the patients.
5.5 LIMITATIONS OF THE STUDY

The following limitations were encountered:

- The context of the myocardial infarction patients was limited to two areas (CT ICU and CCU) at the setting of public sector hospital with indigenous patients which used a small sample size (n=76), the findings of this study can only be generalized to other ICU’s in level III tertiary hospitals in South Africa. It may be necessary for validation of the instrument to be conducted in other levels of ICUs within the South African context using a larger sample size.

- Due to sensitivity of race from an apartheid country like South Africa, there was no population group information in the demographic data during data collection from nurses. This study was conducted in an academic hospital where 90% of the nurses are black.

- Since the sample, therefore was comprised of a proportion of literate, English-speaking patients from one hospital only, the possibility of generalizing the results to a wider population of South Africa/Johannesburg myocardial infarction patients must be regarded with caution. This affects the potential relevance of the work to people of more diverse social and ethnic origins and limits the usefulness of the findings and their transferability to other groups of patients.

5.6 RECOMMENDATIONS OF THE STUDY

Patients’ recovery from myocardial infarction/acute coronary syndrome, bypass surgery and angioplasties are being offered structured programs (cardiac rehabilitation) in the post-discharge phase. Education commencing with the acute phase, while patients are in coronary care, is sometimes, although not always, a component of these programs. The following recommendations have been made for the benefit of the following discipline:

5.6.1 Recommendation for Clinical Nursing Practice

An information check-list should be introduced in order to guide nursing staff regarding the likely areas of patients’ information needs; this can help ensure that a basic amount of information is given to all during the pre discharge period. This will educate patients and increase their levels of satisfaction. This will also provide a documentary record on what
information individuals have been given whilst in CCU, and will make a better use of nursing time. This will help nursing staff to be able to carry out this role more efficiently.

5.6.2 Recommendations for Nursing Management

In an ageing population, growing numbers of people are admitted to hospital with myocardial infarction. Also, studies on other patient groups have found differences in the information needs of patients according to their age, both in hospital (Dodge, 1969) and after discharge (Johansson et al., 2002). The researcher therefore calls for more research to address the lack of studies specific to elderly myocardial infarction patients, suggesting a comparison between the needs for patients younger and older than 65. The researcher suggests provision of cardiac rehabilitation and support (social, psychological) to the elderly to be more significant, since in that age they are widows and they need more assistance. If the hospital manager can extend the support to the elderly who are facing the burden of a chronic disease like acute myocardial infarction, it will be of great value.

The nursing manager should consider a ratio of one to one when a patient has been taken care of in a coronary care unit in order to improve the outcome of the disease and prevent reoccurrence since the study indicates that nurses who care for three or more patients in the ICU may have less time to devote to patient care especially in preventive measures than the nurses who care for one or two patients (Pronovost, Dang & Dorman, 2001:203). This is further supported by Pronovost, Jenckes and Dorman (1999), for their study showed that not having an ICU nurse patient ratio of less than one to two increased the hospital length of stay and complications thus, increased use of resources and high ICU costs.

5.6.3 Recommendations for Nursing Education

The following recommendations are made for nursing education.

- Knowles theory should be incorporated into cardiac rehabilitation. Rehabilitation is not thought of in acute conditions of myocardial infarction and ICU nurses need to demonstrate that the patient’s needs have to be taken in consideration during discharge planning.
• Clinical instructors and critical care nurses should use a tool such as CPLNI in the pre discharge phase in order to meet the information needs of myocardial infarction patients which will prevent the reoccurrence of the condition.
• Coronary care nurses should be made aware that improved patient outcomes can be planned by using an appropriate instrument such as CPLNI.

5.6.4 Recommendations for Further Research
• Further studies where more patients’ representation can be added as part of the expert group is needed in order to get the patient score on the validation of the CPLNI.
• The item NGT/TNT should be replaced by sublingual spray in the further study using the same instrument CPLNI.
• Further studies on illiterate, diverse cultures and social and ethnic patients with the diagnosis of acute myocardial infarction in recovery stage must also be considered.

Up to this point, this research report sought to determine validity and reliability of CPLNI in CCU of a public sector hospital in Johannesburg. The research study found that CPLNI is a valid and reliable scientific objective instrument. This instrument (CPLNI) can be used to compare the perceptions of patients and nurses on the information needs of myocardial infarction patients in recovery stage.

In this chapter, the research was summarized, the main findings and limitations were discussed and recommendations were made. To end this journey, the present research report sought to determine validity and reliability of the CPLNI in the coronary care unit of a public sector hospital in Johannesburg. This research found out that CPLNI is a valid and reliable scientific objective instrument.