GENDER DIFFERENCES IN THE EXPERIENCE OF CORONARY ARTERY SURGERY

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STUDENT DECLARATION:

I declare that all material contained in this treatise submitted to Avondale College is my own work, or fully and specifically acknowledged wherever adapted from other sources. I understand that if at anytime it is shown that I have significantly misrepresented material presented to the college, any degree or credits awarded to me on the basis of that material may be revoked.

Signed: ..... Date: 31/10/97.....

TABLE OF CONTENTS

		Page
Abstract	.....	1
Chapter 1	Introduction and Need for the Study.....	2
1.1	Summary of Introduction and Need for the Study.....	5
Chapter 2	Literature Review.....	6
2.1	Proposed Reasons for the Gender Difference in the Lived Experience.....	6
2.1.1	Socialisation and Sex Role Formation.....	7
2.1.2	Anatomical and Physiological Differences.....	9
2.1.3	Clinical Presentation.....	12
2.1.4	Coronary Artery Surgery and Comorbidities.....	14
2.1.5	Coronary Artery Surgery Procedure.....	16
2.1.6	Gender Bias.....	18
2.2	Gender Differences in the Lived Experience of Recovering from Coronary Artery Surgery.....	21
2.2.1	Physical Concerns.....	21
2.2.2	Psychosocial Concerns.....	26
2.2.3	Spiritual Concerns	31
2.3	Summary of the Literature Review.....	33
Chapter 3	Research Design.....	35
3.1	Methodology.....	35
3.2	Validity and Reliability.....	40
3.3	Source of the Data.....	42
3.4	Sampling Issues.....	43
3.5	Data Collection Method.....	45
3.6	Procedure for Data Collection.....	46
3.7	Ethical Considerations.....	48
3.8	Treatment and Analysis of the Data.....	56
3.9	Potential Problems and Limitations of the Proposed Study.....	58
3.10	Research Design and Methodology Summary.....	59
Chapter 4	Proposed Findings.....	62
Chapter 5	Projected Conclusions.....	67
References.....		68

LIST OF APPENDICES

Page

Appendix 1 Consent Form for Initial Interview..... 77
Letter to Participants..... 78

Appendix 2 Telephone Interview - Validation Consent Form..... 79

ABSTRACT

This treatise outlines a plan to explore, from the patient's point of view, the lived experience of undergoing and recovering from coronary artery surgery. It is postulated that men and women experience widely differing reactions to undergoing this surgical procedure.

This proposed qualitative study was planned to follow an adaptation of Streubert's (1991) phenomenological methodology, using purposive sampling of people experiencing elective coronary artery surgery at a large private hospital based in New South Wales, Australia. The planned sample would initially be planned to include four men and four women however, the exact number of participants required would depend on when data saturation was reached. The proposed method of data collection was to be a face-to-face interview, one week after surgery, but prior to discharge. A subsequent follow up telephone interview was to be conducted during the sixth post-operative week.

The projected findings, based on the literature review, indicate that men and women had contrasting psychosocial concerns and encountered both common and unique physical symptoms. As such, the meaning of this lived experience was different for men and for women.

1. INTRODUCTION AND NEED FOR THE STUDY

Coronary artery surgery is a major procedure which is undertaken to improve the quality and quantity of life for patients with coronary artery disease. This surgery can have wide ranging ramifications in the recipient's life, not only financially but also emotionally, physically and socially. The purpose of this study was to explore what it is like for men and for women to undergo coronary artery surgery, specifically what concerns, feelings, physical symptoms and sensations they experience during the six-week recovery period. The aim of the study was to assist health-care professionals in gaining a greater understanding of the lived experience of coronary artery surgery for men and for women.

Coronary artery surgery is a surgical procedure by which an obstructed coronary artery has another artery or vein grafted onto it to bypass the obstruction. The aim of the surgery is to increase the blood supply to the myocardium (Thompson and Webster 1992, 313), the main indication being coronary artery disease which manifests as anginal pain. Often this angina is debilitating for the patients, or may be unresponsive to medical management (North 1988, 26). According to Allen (1990, 50) this surgery provides alleviation from anginal pain in 70-90 percent of patients. Within these patients 60-70 percent have absolute relief, while 30-40 percent gain only limited anginal abatement.

The incidence of coronary artery surgery has been cited to have increased within Australia from 50 per year in 1970 to 10,433 per year in 1990 (National Heart Foundation 1992, cited by Wise and Graham-Clarke 1994, 55). These figures did not include people who had undergone other surgical procedures such as carotid endarterectomy, performed at the same time as the coronary artery surgery. Historically, more men than women have been the recipients of coronary artery surgery, although the balance is changing with increasing numbers of women undergoing coronary artery surgery (Artinian and Duggan 1993, 483; Jensen and King 1997, 47).

In providing nursing care for patients who have undergone coronary artery surgery, it is important to understand their needs, feelings and concerns in order to provide appropriate care, and to assist the patients in visualising what may be ahead for them during their recovery period (Hawthorne 1994, 76). As men and women differ, not only physiologically but also in the way they think and feel, it is important to gain an understanding of both genders' view of the lived experience of recovering from coronary artery surgery (Gray 1992, 10; Lupton 1994, 286; Romeo 1995, 170; Cronin, Logsdon and Miracle 1997, 19). This can be achieved through firsthand experience, through patients describing to nurses the experience and the meaning it has for them, or through accessing research dealing with the patient's perception of this surgery. Qualitative research examines the situation from the patient's perspective. However, there is little research available on this topic which has been undertaken from the patient's perspective. The majority of research

was found to be of a quantitative nature focussing on gender and the development of signs and symptoms or the incidence of complications (For example, Colditz et al 1987; Mathew et al 1996; Mickleborough et al 1995).

This proposed study is relevant to the nursing domain for several reasons. First, it examines the topic from the patient's perspective. This is important as the patient's perception of their health and the coronary artery surgery they have undergone can influence the degree and rate of their recovery (Moser and Dracup 1990, 16-17; Hawthorne 1994, 76). Second, there are differences between what nurses perceive the patient's concerns and needs as being, and what the patients perceive them to be (Yarcheski and Knapp-Spooner 1994, 58). This difference can lead to patient's needs not being adequately met. This proposed study provides a means of ascertaining what the patient's concerns, feelings and needs are from the perspective of both male and female patients. As such, it would be a valuable way to augment the nursing knowledge base in order to provide appropriate care to the men and the women who undergo coronary artery surgery to aid their return to optimal functioning.

The proposed question under study was: **"How does the experience of men and women undergoing and recovering from coronary artery surgery compare?"** That is, How different are the needs, concerns and feelings of men and women recovering from this surgery?

1.1 Summary of introduction and need for the study

Men and women differ physiologically, socially and emotionally. Their lived experience of undergoing and recovering from coronary artery surgery and the meanings they attribute to this experience also differ. As the incidence of coronary artery surgery has increased dramatically in Australia over the last two decades, and the numbers of women undergoing this surgery have escalated significantly, it is an important area of research for the nursing domain. There is also a very limited amount of qualitative research studies on coronary artery surgery. Therefore this proposed study, if carried out, would increase the amount of qualitative research relating to this topic.

As mens' and womens' perceptions of their respective health levels and of the coronary artery surgery they have undergone can influence the rate and degree of recovery, it was viewed to be important, to understand what the lived experience of undergoing coronary artery surgery is like for both men and women. Additionally, as there are differences between what the nurses perceive as the patient's needs, concerns and feelings to be, and what the patients perceive them as being, it is important to examine this topic from the patient's perspective in order to aid nurses in providing gender-appropriate care. Qualitative research provides a means of achieving this. The following chapter consists of a literature review relating to the ways in which men and women differ, and the ways in which their lived experience of undergoing and recovering from coronary artery surgery can differ.

2. LITERATURE REVIEW

The aim of the examination of the literature was to determine the need for the study and to ascertain how the description of this lived experience corresponded with what was already known about this topic (Streubert 1991, 123; Young-Brockopp and Hastings-Tolsma 1989, 126; Holloway and Wheeler 1996, 24).

This literature review has been divided into two sections, both relating to the gender different lived experience of undergoing and recovering from coronary artery surgery. The first section critically analyses purported explanations of **why** men and women perceive this lived experience differently, addressing such issues as socialisation and sex role formation, anatomical and physiological differences, gender differences in clinical presentation, coronary artery surgery and incidence of comorbidities. It also explores gender differences in the coronary artery surgery procedure utilised and the possibility of a gender bias in the diagnosis and treatment of coronary artery disease. The second section examines **how** the lived experience is perceived differently by men and by women addressing such issues as physical concerns, psychosocial concerns, spiritual concerns of both men and women during their recovery.

2.1 Proposed Reasons for the Gender Difference in the Lived Experience

Men and women differ both physically and psychologically. This section examines the way in which they differ physically and the theories used to explain the psychological differences.

2.1.1 Socialisation and Sex Role Formation

The majority of the psychological gender differences arise through socialisation of individuals. Although children are born either male or female, it is through the socialisation process that they learn what behaviours are acceptable for their gender with the society in which they live. This leads to the formation of sex roles (Summers, Borland and Walker 1989, 491). Summers et al (1989, 857) defined sex roles as being "the patterns of behaviour that a society expects of a male or female person". Socialisation refers to an "interactive process whereby individuals learn to conform to social rules and to accept social beliefs, thus making possible the transmission of culture across generations" (Baxter 1994, 108).

However, there remains debate as to whether the differences in sex roles are as a result of biological differences, the socialisation process or a combination of the two. Waters and Crook (1990, 191) supported the view of biological differences resulting in differing sex role behaviour, arguing that as women are able to give birth to children and to manufacture the necessary breast milk to feed these children, then they have a greater affinity for nurturing and care giving than men do. It is because of these factors that women have a more significant connection to the household than men do.

Callon, Gallois, Noller and Kashima (1991, 82) argued sex role differences arise from socialisation. These authors asserted that on the basis of a person's sex, society allocates contrasting attributes and traits to the individuals. That is, males are perceived to have certain characteristics, and these differ from those of females. Abraham and Shanley (1991, 94-95) believe both biological differences and socialisation are involved in sex role formation. The biological differences form the basis upon which self identity

is developed. Socialisation shapes this self identity to ensure socially acceptable behaviours are exhibited.

The male sex role has been described as consisting of certain characteristics and traits such as being independent, rational, stoic, aggressive, dominant, competitive, unemotional and undemonstrative. The female gender role places great emphasis on nurturing, caring, emotions, closeness with others and on the maintenance of the household and family relationships (Summers et al 1989, 494; Callan et al 1991, 82; Hafner 1989, 15; Williams 1994, 18). Hafner (1989, 16) argued that the female sex role stereotype not only hinders exhibitions of competitiveness and aggression, it also expects that these characteristics not form any part of a female's composition. These stereotypes are reinforced by the family, the media and through peer group pressure. These sex role stereotypes were seen to be ingrained within the societal structure to maintain the fabric of the society (Williams 1994, 18-19; Hafner 1989, 15).

It was also through socialisation that illness behaviour was learned. The illness role and resultant behaviours were seen to vary with gender, and the sex role characteristics being carried into the illness roles. As such, women were seen as being more emotional and requiring more social support than men, who were expected to be stoic and independent (Waters and Crook 1990, 302). There were also sex differences seen in relation to perception of health, in that men viewed health from the perspective of their fitness level, whilst women view health in regards to how well they were coping with their life (Lupton 1994, 287; Baxter 1995, 28-31). It therefore can be seen that men and women think and react differently and as a result, differ in their psychological composition (Gray 1992, 11; Hafner 1989, 15; Gorman 1995,

59; Williams 1994, 18-19). There also were differences in the physical composition of men and women which were identified.

2.1.2 Anatomical and Physiological Differences

Whilst there are multiple anatomical and physiological differences between men and women, this paper will examine only those differences related to the lived experience of undergoing coronary artery surgery. The female heart is generally smaller and lighter, weighing approximately 255 grams compared with 310 grams for the male heart (Van De Graaff and Forx 1986, 622). The coronary arteries in women are also generally smaller than those of men (O'Connor, Morton et al 1993, 2107).

There was debate in the literature as to whether gender or the smaller coronary artery size results in a greater mortality for women. O'Connor et al (1993, 2107) argue that body surface area rather than gender correlated positively to increased mortality, even though the women in this study were found to have smaller coronary artery luminal diameters than men. O'Connor et al (1995, 653) however, support the view that the smaller coronary artery luminal size in women increases the female mortality rate during and after coronary artery surgery. However, Mickleborough et al (1995, II-82 - II-83) in their study found that neither body surface area nor coronary artery vessel size had any bearing on mortality. Therefore, whilst it was evident that the coronary arteries of women were smaller than those of men, it could not be conclusively shown that this factor caused an increased mortality for women.

Women, in general, were reported to have a higher ejection fraction than men (Romeo 1995, 170; Jensen and King 1997, 46). Ejection fraction refers to the amount of blood forced out of the left ventricle with its contraction, compared with the amount of blood left in the ventricle after its contraction

(Thompson and Webster 1992, 24). Unlike men, approximately 30 percent of women were cited to not increase their ejection fraction with exercise (Wingate 1991, 212). This was seen to have implications for the value of exercise stress testing as a diagnostic tool for determining coronary function in women, as this test utilises the ejection fraction for determining cardiac functioning.

There also were hormonal differences in that women produce mostly oestrogen whilst men produce mainly testosterone (Romeo 1995, 171). Oestrogen provides some protection for women against coronary artery disease until menopause when the risk of developing coronary artery disease becomes equal to that of men (Murdaugh 1990, 38). There was little research cited into the effects of testosterone and its decline in aging on the development of coronary artery disease (MacPherson 1992 cited by Romeo 1995, 171). The use of oestrogen supplements for men with coronary artery disease has been found to be detrimental, in that it increases the mortality rate (Coronary Drug Project Research Group 1970 cited by Mandio and Haflon 1993, 2). However, the use of oestrogen supplements in post-menopausal women was cited to be controversial, in that it has not been conclusively proven to be effective in preventing coronary artery disease. Additionally, the means by which it provides protection was unclear and there was little evidence of its direct actions on preventing coronary artery disease and as a result there are only suggested links that have been established (Romeo 1990, 171; Eaker, Johnson, Loop and Wegner 1992, 192).

The majority of research recorded in the literature into the effects of oestrogen on coronary artery disease have utilised post-menopausal women as subjects and examined the effects of using oestrogen supplements (for example Colditz et al 1987; Mathews et al 1989; Steingart et al 1991).

Barret-Connor and Bush (1991, 1865) asserted that oestrogen supplements for post-menopausal women can decrease the incidence of coronary artery disease by up to 50 percent, compared with post-menopausal women who do not take supplemental oestrogen. Wilson, Garrison and Castelli (1986, 315) have an opposing view. In their study, it was found that post-menopausal women who ingested supplemental oestrogen had an elevated risk of developing coronary artery disease when compared with post-menopausal women taking no oestrogen. Murdaugh (1990, 39) argued that other factors may have influenced the results of this study in that many of the women involved were smokers and that oestrogen supplements were not initiated before the age of 60.

Colditz et al (1987, 1108) compared the development of coronary artery disease in women who had experienced surgical menopause and those who had experienced natural menopause as a result of aging. These groups were divided in half, with half receiving oestrogen supplements and half receiving no supplement. It was found that surgical induced menopause increased the risk of coronary artery disease development. This risk level was seen to be decreased when supplemental oestrogen was used. Those who experienced natural menopause were found to have no greater risk of developing coronary artery disease than pre-menopausal women, whether or not oestrogen was ingested (Colditz et al 1987, 1107). On this basis, the authors asserted that womens' increased risk of developing coronary artery disease as they age is related to the aging process rather than the presence of oestrogen (Colditz et al 1987, 1109). Mathews et al (1989, 645) disagree with the previous study. These authors proposed that the increased risk of developing coronary artery disease was due partly to the aging process and partly to oestrogen deprivation. Sullivan, Zwaga and Hughes (1990, cited by Eaker et al 1992, 192-193) argued that not only is there increased protection

against coronary artery disease in post-menopausal women who use oestrogen, but also increased longevity. Particularly this is so for those women who already have diagnosed coronary artery disease.

Many of the studies in this area have provided little analysis of social factors which may influence a woman's risk of developing coronary artery disease, such as educational level and socioeconomic status, this may have influenced the data collected and the results determined (Barrett-Connor and Bush 1991, 1865). However, the studies have shown that the protective factor of oestrogen ceases with menopause. Women are then perceived to be at an equal risk of developing coronary artery disease as men are (Murdaugh 1990, 38). The use of supplemental oestrogen to reduce this risk must be considered carefully. Although it may reduce the risk and/or severity of coronary artery disease, there is evidence to suggest that it may enhance the risk of developing other conditions such as breast and uterine cancers and thrombolytic disorders (Murdaugh 1990, 39; Eaker et al 1992, 192; Williams, Adams and Klopfenstein 1990, 1680). In addition to the anatomical and physiological differences present between men and women, there were also seen to be differences in the presentation of coronary artery disease in men and women.

2.1.3 Clinical Presentation

As previously mentioned, there also are gender differences in the presentation of coronary artery disease. Women were cited to be more likely than men to have angina as their first clinical sign of coronary artery disease. Angina is defined by Thompson and Webster (1992, 26) as "a transient, reversible episode of inadequate coronary circulation .....[resulting in] a discomfort located in the chest or adjacent areas". Men, however, were cited

to be more likely to have myocardial infarction or death as their first indication of coronary artery disease (Orencia, Bailey, Yawn and Kottke 1993, 2392).

Women were also more likely than men to experience angina due to coronary artery vasospasm, with the absence of plaque or thrombosis. Men more commonly were cited to experience coronary artery vasospasm in connection with the presence of a plaque lesion or thrombosis (Wingate 1991, 216).

Women also have been found to experience more atypical chest pain than men (Romeo 1995, 171). This creates difficulties in an accurate diagnosis of the source of the pain. Murdaugh (1990, 39) explained that of the women who experience atypical chest pain, approximately 10 percent will have coronary artery disease. Of this 10 percent, up to 2 percent will have multivessel coronary artery disease or left main artery involvement. Whereas women who experienced clear cut anginal pain are more likely to have left main artery disease or multivessel coronary artery disease. Eaker et al (1992, 197) however, contended that up to 30 percent of women who experience atypical chest pain will have coronary artery disease, whilst those suffering non specific chest discomfort will not often have coronary artery disease. In contrast, 75 - 100 percent of men who experience clear cut anginal pain will have coronary artery disease with 50 - 75 percent having multivessel involvement and up to 25 percent with only the left main coronary artery involved. In relation to non specific chest pain, up to 60 percent of men experiencing this pain will have coronary artery disease. Of this 60 percent up to 20 - 30 percent will have three or more coronary arteries involved. 2 - 5 percent of this to will have only the left main coronary artery diseased (Murdaugh 1990, 40).

As myocardial infarctions were identified to be often experienced by both genders prior to coronary artery surgery being performed, and can influence recovery from this surgery, this is another important area to be examined for gender differences (Manolio and Harlan 1993, 1). Gender differences do exist in this area (Romeo 1995, 171).

Men who experience a myocardial infarction were cited to have a better outcome, generally than do women (Murdaugh 1990, 41). Women are more likely to have a myocardial infarction without any symptoms, making early interventions and treatment impossible. Women were also seen to experience a higher mortality rate with their first myocardial infarction than do men (Eaker et al 1992, 197). Women generally were older than men when they have a myocardial infarction (Eaker et al 1992, 197). The age difference may make their recovery more difficult. It may also mean that other diseases are present which may also impact on recovery (Wingate 1991, 216; Orencia et al 1993, 2396). As a consequence of myocardial infarction, women tended to have a higher incidence of congestive heart failure, and this issue was suggested to have detrimental influences on recovery from coronary artery surgery (Wingate 1991, 216; Murdaugh 1990, 41). O'Connor et al (1993,2107) explained that the main cause of death post coronary artery surgery for women was congestive heart failure. There were also seen to be gender differences in comorbidity presentations which will be explored in the next section.

2.1.4 Coronary Artery Surgery and Comorbidities

As well as having increased morbidity and mortality as compared with men undergoing coronary artery surgery, women also generally have an increased number of comorbidities. As already discussed, women have been identified to have more congestive heart failure than men. There has also been a

higher cited incidence of diabetes in women undergoing coronary artery surgery, than in men (O'Connor et al 1993, 2106). Diabetes, in its own right, was viewed to increase the risk of coronary artery disease development, and contribute to the increase of complications, thereby influencing the recovery process (Thompson and Webster 1992, 281; Murdaugh 1990, 41).

Women also were cited to have a greater incidence of hypertension than do men undergoing coronary artery surgery (Weintraub, Wenger, Jones, Craver and Guyton 1993, II-80). Hypertension was seen to increase the risk of developing and/or worsening congestive heart disease (Thompson and Webster 1992, 281). Post surgery was also seen as a problem as it can increase the risk of graft anastomosis, site leakage and rupture (Hudak and Gallo 1994, 368). There was also recorded a greater incidence of unstable angina among women undergoing coronary artery surgery than there is among men (Wingate 1991, 216). This situation suggested that more women than men were likely to undergo this surgery as an emergency rather than an elective procedure (Weintraub et al 1993, II-81). Both these factors contribute to the poorer prognosis of women compared with men.

Age was another factor that generally differs with gender. The women undergoing coronary artery surgery were typically older than the men (Weintraub et al 1993, II-79; O'Connor et al 1993, 2105). Older patients, particularly women, were observed to have a higher operative and post operative mortality rate (Tyer, Russell, Leppard and Craddock 1993, 166). Weintraub, Craver, Cohen, Jones and Guyton (1991, 111-226) explained that this is because, as the age of the patients increases, so does the severity of angina, the degree of heart failure, and the amount of coronary artery occlusions. Increased age was found to increase the incidence of wound infections, neurological complications and death (Weintraub et al 1991, 111-

231). However, women were found to have more complications than men, with the female gender being an independent correlate of death (Weintraub et al 1991, 111-228).

Most research indicated that women have a higher mortality rate than men (O'Connor et al 1993, 2104; Tyer et al 1993, 166; Weintraub et al 1993, II-79; Eaker et al 1992, 199). However, Mickleborough et al (1995, II-82) found in their study that the female gender was not a predictor of death, with both men and women having an almost equal mortality and morbidity after coronary artery surgery. These authors argued that overall mortality after this surgery had decreased, whilst the health status of those undergoing this surgery has worsened. The decreased death rate is attributed to improved technology (Mickleborough et al 1993, II-83).

However, once women have undergone coronary artery surgery their survival rate was cited to be equal to that of men (Eaker et al 1992, 200; Van Brussel et al 1993, 11-89). Rahimtoola, Bennet, Grunkemeier, Block and Starr (1993, II-75) disagreed and argued that women do have a poorer long term survival than men. The difference, although not large, is still important. The presence of an increased number of comorbidities for women was the cause attributed to their decreased length of survival after coronary artery surgery (Rahimtoola et al 1993, II-75).

2.1.5 Coronary Artery Surgery Procedure

During coronary artery surgery more men than women were identified to have internal mammary arteries grafted onto their occluded native vessels than do women (O'Connor et al 1993, 2106). The use of internal mammary arteries has been seen to be linked with decreased mortality rate, both in the hospital and in relation to long term survival (Tyer et al 1993, 168; O'Connor et al

1993, 2106; Van Brussel et al 1993, II-87). Mickleborough et al (1995, II-83) explains that often the reason why more men than women received internal mammary artery grafts is that women, because they are generally older, have more fragile sternums, and the harvesting of these arteries can further damage these bones. Second, they asserted that due to advanced age and comorbidities often present, it was important to preserve these arteries in order to provide maximum blood supply to the chest wall. They argue that using the internal mammary arteries for grafting may increase the risk of wound breakdown or infection.

Shinn (1992, 247) maintained that the choice of graft used, whether it be an internal mammary artery, a radial artery, or a saphenous vein graft, had no impact on short term morbidity and mortality, but promoted long term survival. Tyer et al (1993, 170) however contends that the use of an internal mammary artery decreased the risk of death during the surgery, but has no effect on preventing intraoperative myocardial infarctions.

It was suggested that during surgery, the extent of coronary artery disease is conclusively established. Gender differences in relation to disease severity varied among different researchers. Mickleborough et al (1995, II-83) asserted that more men than women have three or more coronary arteries diseased, with more women than men having only one coronary artery diseased. This assertion was supported by others (Wingate 1995, 171; Murdaugh 1990, 43). It was however, also rejected to some extent. Weintraub et al (1993, II-81) proposed that the incidence of women with three vessel disease has been increasing, to the degree that in 1991 there was no gender difference in the number of diseased coronary arteries. O'Connor et al (1993, 2106) contended also that there was no gender difference in coronary artery disease severity or distribution. Nor, in the

above study, was there a difference in both genders in the number of vessels involved between those surgeries that were elective and those that were performed as an emergency.

Therefore, it can be seen that while historically men undergoing coronary artery surgery have had a greater severity of disease than women, this difference is diminishing. Little research has been undertaken to explain this change, with current research suggesting it is the result of alteration of lifestyle for women, and the increased age of women undergoing coronary artery surgery (Weintraub et al 1993, II-83; Mickleborough 1995, II-83). Another possible explanation of why the experience of coronary artery surgery differs between men and women was that of gender bias.

2.1.6 Gender Bias

There was debate cited in the literature about whether a gender bias existed in the diagnosis and treatment of coronary artery disease. As already discussed, the diagnosis of the source of chest pain, particularly atypical pain, was seen to be difficult in women (Murdaugh 1990, 39). The value of exercise stress testing as a diagnostic tool for women is also cited to be limited, as some women did not increase their ejection fraction with exercise, whilst men did (Romeo 1995, 170; Wenger 1993, 36). This factor was seen to hinder accurate determination of the heart's function. Romeo (1995, 170) also argued that women experienced more chest pain as a result of vasospasm. Vasospasm was more difficult to detect than arteriosclerosis and therefore correct diagnosis of the source of pain was observed to be more arduous and often took longer to reach.

Hawthorne (1994, 75), a firm supporter of the existence of a gender bias, argued that men undergo coronary artery surgery at a higher rate than do

women. It has also been argued that there were differences in the way in which men and women are referred for coronary artery surgery, even after comorbidities and outcome possibilities have been examined (Manolio 1993, 1; Riegel and Gocka 1995, 458). Several authors have postulated as to why this perceived gender bias has occurred. Mickleborough et al (1995, II-83) asserted that often less women are referred for coronary artery surgery, as there is concern over their comorbidities, small coronary artery size and the rate of mortality. These authors postulated that these factors were limited due to improvements in technology and therefore should not be utilised when referral is considered.

Steingart et al (1991, 227) found that there was a difference in the numbers of men and women undergoing cardiac catheterisation, in that more men than women underwent this procedure, even though more women than men in this study described experiencing more debilitating chest pain. However, of those men and women who underwent cardiac catheterisation, there was no apparent gender differences in those referred for coronary artery surgery. Several reasons for the difference in cardiac catheterisation referral rate were proposed. The first reason was that it was more likely to be ascribed to being of a non cardiac cause (Steingart et al 1991, 229). This would mean that less women would be referred for diagnostic tests and ultimately surgery. Second, it was postulated that doctors may believe angina in women is "benign", and often is not indicative of coronary artery disease (Steingart et al 1991, 229). This reason is similar to the first given, but different in that the pain is attributed to a cardiac cause.

Ayanian et al (1991, 223) agreed that there is a gender bias in the diagnosis and treatment of coronary artery disease. However, they were uncertain as to who the gender bias favours. These authors assert that the gender

differences in diagnosis and treatment may be appropriate, or may indicate excessive utilisation for men, or insufficient utilisation for women. They postulated several possible reasons for the differences in usage amounts of diagnostic tests and surgical intervention. First, women not only have a greater rate of operatives mortality, but they gain less relief from anginal symptoms than men do after coronary artery surgery. Second, more women than men may choose not to have surgery (Ayanian et al 1991, 223-224).

Although it has not been conclusively shown that a gender bias does exist in diagnosis and treatment of coronary artery disease, no evidence has been provided that it does not exist. Therefore, the existence of the gender bias remains hypothetical. More research is required to determine whether or not it occurs and the reasoning behind it.

As previously indicated, the literature has shown that there are multiple explanations of why the lived experience of undergoing and recovering from coronary artery surgery may differ between men and women. These reasons have included the postulated gender bias in diagnosis, referral and treatment of coronary artery disease, the type of blood vessel utilised as the graft, the increased comorbities and elevated levels of morbidity and mortality that women have when compared with men and the gender differences in clinical presentation of coronary artery disease. There are also anatomical and physiological differences which influence the development of coronary artery disease and the outcome of surgery. Men and women also differ in their psychological composition due to socialisation and/or their biological makeup. The following section portrays how men and women perceive the lived experience differently.

2.2 Gender Differences in the Lived Experience of Recovering from Coronary Artery Surgery

The previous section analysed the literature pertaining to the reasons why men and women experience coronary artery surgery differently. This section will examine the recovery from coronary artery surgery, highlighting the gender differences noted in the literature. Both men and women have physical and psychosocial concerns after undergoing coronary artery surgery with varying degrees of similarity.

2.2.1 Physical Concerns

Post-operatively, whilst in hospital, more men than women experience atrial fibrillation. Mathew et al (1996, 304) in their study found that the risk of experiencing atrial fibrillation after coronary artery surgery was 41 percent greater in men than in women. This was found to be a greater predictor than age. Atrial fibrillation is a problem in that it may lead to an increased length of stay, an elevated risk of cerebrovascular accidents and an increased risk of developing congestive heart disease (Hudak and Gallo 1994, 370; Mathew et al 1996, 303). Experiencing atrial fibrillation can be distressing for the patient, particularly when it is perceived as a set back in their recovery (Paterson 1978, 53; Cohan et al 1989, 98). Therefore, this can impact on the person physically, financially and psychologically.

Pain has been cited to be experienced by all patients who have undergone coronary artery surgery. This pain relates to the incision sites of the chest and from the graft donor sites. Back and neck pain has also been seen to be common and result from the repositioning of the ribs during surgery. Hudak and Gallo (1994, 371) explained that the chest incision related pain was often worse during the first four days after surgery. However, graft donor incision sites were usually reported to be more painful as the patient increases

ambulation, particularly if peripheral oedema occurred. Fulcher (1993, 36) reported that although the majority of patients experience chest incision site and donor site pain, few people verbalised this pain.

Moore (1996 a, 101) found that women often also experienced breast pain that may or may not be perceived as being related to the chest incision pain. This additional pain, in part may explain why women may have a slower recovery than men. Hawthorne (1994, 78) purported that women also verbalise more chest incision-related-pain than men. This proposition may be explained because they experience more pain or because through socialisation and the resultant sick role, women are perceived to be more emotional and more likely than men to seek medical attention for symptoms (Callan et al 1991, 82; Waters and Crook 1990, 318; Lupton 1994, 293).

The pain level was cited as an important concern of patients after discharge, particularly within the first week after discharge. Moore (1995, 498) found that it was the main concern expressed by both men and women up to three weeks after surgery. However, more men than women expressed their feelings about their pain throughout this study. Wu (1995, 5-16) reported that chest pain due to surgery was the second greatest concern of patients after discharge, particularly in the first week. The pain levels were cited to diminish throughout the recovery period (Cohen et al 1989, 115). Mayou and Bryant (1987 cited by Fulcher 1993, 36) however, found that 20 percent of people still experience chest and leg wound pain one year after their surgery. This was seen to impact on all areas of the person's life. People who have undergone coronary artery surgery also experience neck, back and shoulder pain (Wu 1995, 6). Men more often verbalise this pain than women (Moore 1995, 498). This pain was also recognised to have eased over the recovery time (King and Parrinello 1995, 711).

Sleep disturbances were also reported to be common, not only in the hospital environment, but after discharge (Artinian and Duggan 1995, 487). King and Parrinello (1988, 709-710) explained that the major symptom in this category was the inability to remain asleep, rather than the problem of initiating sleep. Moore (1995, 498) however, found that both men and women did have problems falling asleep, as well as increased frequency of nightmares and the inability to remain asleep all night. Moore (1995, 498) reported that this was a bigger problem for men than for women. Artinian and Duggan (1995, 487-488) however found there was no gender difference in relation to sleeping disturbances.

It was noted that 25 - 50 percent of all patients experience sleep disturbances during the first week after discharge. By the third week 2 - 50 percent still experienced sleep disorders. By the sixth week after discharge 9 - 35 percent were still experiencing sleep disorders (King and Parrinello 1988, 711; Artinian and Duggan 1995, 488; Moore 1995, 498). Therefore, one could conclude that sleeping problems also decrease over the recovery period with probably more women than men experiencing them. Fatigue or tiredness was also cited as a symptom experienced after coronary artery surgery. King and Parrinello (1988, 710) found that there was a poor association between those people who experienced sleep disturbances and those experiencing fatigue. During the hospital stay up to 80 percent of men and 25 percent of women verbalised feelings of tiredness (Moore 1995, 498).

King and Parrinello (1988, 709) asserted that 94 percent of patients experience fatigue in the first week after coronary artery surgery. In the first week after discharge 25 - 80 percent of men experience fatigue, while 15 - 24 percent of women experience fatigue. Three weeks after discharge more

men (90 percent) than women (20 percent) still experience fatigue (Moore 1995, 498; Artinian and Duggan 1995, 488). By the end of the recovery period King and Parrinello (1988, 711) asserted that 70 percent of patients experience fatigue. No research was obtainable to examine gender differences at this stage of recovery. Sleeping problems and fatigue not only were seen to impact on the person physically, but also psychosocially as it influences how they felt about themselves and thereby how they interacted with others.

Memory problems are also a common complaint experienced after coronary artery surgery. This, it was postulated, could be compounded by lack of sleep and fatigue and result in disturbance for the patient, other patients and his/her family. The causes attributed to these memory problems were cited as anaesthesia, narcotic and analgesic medications provided for pain relief and physical and mental stress (Cohen et al 1989, 96). Shaw et al (1984 cited by Fulcher 1993, 46) found that 78 percent of patients who had undergone coronary artery surgery experienced memory loss for a short period of time after the procedure. No indication was given in the literature of the degree to which each gender experienced these symptoms.

There were also difficulties experienced in relation to food intake and elimination. In regards to food and fluid intake, the problems often experienced included loss of appetite, nausea and alterations in taste (King and Parrinello 1988, 710). By the first week of discharge 70 percent of patients were reported to still experience these problems (King and Parrinello 1988, 711). Moore (1995, 498) suggested that more women than men, at this stage, have eating difficulties. By the third week after discharge 30 percent of patients have continued eating problems, with no gender differences obvious (Moore 1995, 498; King and Parrinello 1988, 711). By the end of

the sixth week, only 4 percent of patients were reported to continue to be having problems with their intake (King and Parrinello 1988, 711). Cohan et al (1989, 139-140) explain that loss of appetite and taste alterations can be attributed to the anaesthesia, electrolyte imbalances and many of the drugs commonly ingested after this surgery. Additionally depression, which is a frequent symptom for both men and women after coronary artery surgery, often inhibited appetite (Levin 1994, 82; Cohen et al 1989, 197).

In relation to elimination, the main problem cited was constipation, with more than 50 percent of patients experiencing this difficulty in the first week after discharge (Wu, 1995, 4; King and Parrinello 1988, 711). By the third post-discharge week, 30 percent of patients were reported to be still experiencing this problem. This had decreased to approximately 10 percent by the sixth week after discharge (King and Parrinello 1988, 711). The main factors attributed to the development of constipation were cited as decreased exercise level, an alteration in dietary intake and a side effect of medication, particularly codeine based analgesics (King and Parrinello 1988, 710). No gender comparisons were found in the literature and so it remained undetermined whether men experience this symptom more frequently than women do or vice versa.

Moore (1995, 498) explained that another symptom experienced by both genders after coronary artery surgery was that of "shortness of breath". Kastermans et al (1995, 25) explained that 52 percent of people experience respiratory problems after this surgery. Moore (1995, 498) expounded that this, although occurring more often in men, was more severe for women, with 15 percent of the women in their study requiring additional oxygen three weeks after discharge for shortness of breath. No research data was

available which indicated an absence or presence of this symptom at the end of the six week recovery period.

Artinian and Duggan (1995, 488) found that throughout the six week recovery period, men were more able to carry out their activities of daily living. Ayanian et al (1995, 1769) found the same result, but to a lesser degree, once other variables had been taken into account. Moore (1995, 498; Eysmann and Douglas 1993, 52) noted that women often resumed housework by the third week after discharge, but few exercised outside of the house, whereas men exercised outside and performed no household duties. King and Parrinello (1988, 711) purport that by the sixth week after discharge 76 percent of people had been able to resume the majority of their normal activities. The gender differences, in resumption of day to day activities, were mainly based on sex roles which influence the way in which men and women behave and the resultant roles they performed within the household (Williams 1994, 18; Hawthorne 1994, 78).

As indicated by the literature, men and women experienced similar physical symptoms postoperatively, but often to differing degrees. For example, people of both genders experienced postoperative pain, with more men verbalising back and neck pain than women, and less men complained of chest wall pain than women do. Similarly, there were psychosocial differences between men and women which also lead to them experiencing coronary artery surgery differently.

2.2.2 Psychosocial Concerns

Having cardiac surgery is a stressor for all patients (Yarcheski and Knapp-Spooner 1994, 58). It is a critical situation for both the patients and their families as they consider the vulnerable nature and mortalness of the

person's life (Henley 1997, 10). It affects not only the individual's psychological status, but also influences their family's way of living (Henley 1997, 16). However, the way in which men and women perceive the surgery differs. Studies reported in the literature identity that women generally experience more psychological upset than do men (Moore 1996b, 1823; Rankin 1990, 279). This is important, as psychological elements play a large role in the health and wellbeing of an individual, which in turn influences his/her quality of life (Fulcher 1993, 107). Henley (1997, 17) notes that while the recovery from this surgery enhances the family's relationships for most people, there is still a large number who experience relationship difficulties during and after their recovery. In turn, unsupportive or troublesome relationships can adversely affect the person's recovery from the surgery, thereby compounding the problem (Fulcher 1993, 923). Therefore, relationships have a large impact on the person's psychological wellbeing.

Social support systems and economic status have been shown to influence psychological wellbeing and in turn, the recovery rate of the individual. Ruberman (1992, 559) explained that reduced social support has been associated with an increased cardiac mortality. Social support referred to the person's family and community of friends and has also been identified as a significant factor related to recovery (Fulcher 1993, 100). Seeman and Syme (1987 cited by Fulcher 1993, 131) explained that in relation to social support "quality is more important then quantity". Quality social support was seen to decrease the level of anxiety experienced by the patient during his/her recovery. It also decreases depression, thereby ensuring a greater level of self esteem and had been noted to improve the rate of recovery after coronary artery surgery (Moser 1994, 28, Hayes and Czajkowski 1993, 277-278; Moser and Dracup 1995, 274). As women who undergo this surgery generally are older than the men who receive this treatment, and more often

are single, their social support systems were therefore, seen to be more limited (Artinian and Duggan 1995, 493; Moore 1995, 500). Additionally, the social support given to women was often of a lesser quality than the support provided to men recovering from coronary artery surgery (Cronin et al 1997, 20). Women in general, were perceived to often receive less social support than men, in both quality and quantity. They were, however, reported to have experienced a level of family functioning and relationship satisfaction, higher than that described by men (Cronin et al 1997, 20).

Economic factors were also reported as important. Williams et al (1992, 522) found that those patients with higher incomes had a better survival rate than those who lived on a low income. Additionally, undergoing coronary artery surgery was an expensive undertaking for the patient, particularly when the length of stay in hospital was increased as a result of complications, as health funds rarely cover the full cost of hospitalisation. This often compounded the economic difficulties of those who received a low income, which in turn influenced their psychological wellbeing (Henley 1997, 16; Fulcher 1994, 77-78). There has been little research undertaken into gender differences in this area (Cronin 1990, 16). Moore (1995, 500) pointed out that as the majority of women were older when they underwent the surgery, they were mostly unemployed and often were living on pensions. This classified them as low income earners and therefore more likely to be negatively impacted financially as a result of the surgery. More research is required into the gender related financial differences that arise as a result of undergoing this surgery, in order to gain a greater understanding of the magnitude of this important factor.

There were also differences in the way in which men and women perceive this surgery. Men often perceive coronary artery surgery as a supreme event

in their lives, as they face their own mortality and vulnerability. This often leads to a re-evaluation of relationships, priorities and lifestyle. Men often feel that experiencing coronary artery surgery makes them stronger people. Conversely, women do not view this surgery as a major life event. It was viewed by women as something that needs to be done and an unfortunate disruption to life. It is therefore, argued that coronary artery surgery is viewed by women to have less importance than it does for men (Hawthorne 1994, 78-79; Cronin et al 1997, 20). Additionally, women were generally more concerned about how others within the family unit were having their needs met during the recovery, whereas men are more concerned with ensuring their own needs were met during the recovery (Hawthorne 1994, 78; Moore 1995, 499). This difference may arise to some extent as a result of the differing sex roles and resultant tasks performed within the family structure.

Anxiety, anger and depression were all common feelings after coronary artery surgery (Thompson and Webster 1992, 318). Anxiety was reported to last, not only during the recovery period, but can be a long term problem. Fulcher (1993, 947) found that people who had undergone coronary artery surgery experienced almost the same elevated level of anxiety that they experienced preoperatively. Anger, when it is felt by a patient, was often seen as a manifestation of anxiety and frustration and fear (Cohen et al 1989, 14-15). Both anxiety and anger, when exhibited by the patient, was seen to not only have a deleterious effect on their recovery, but also negatively impacts on their relationships with family and friends (Henley 1997, 17). Depression was also cited to be a common feeling for people who have undergone coronary artery surgery. Fulcher (1993, 949) found that while most people who underwent coronary artery surgery experienced depression, their depression was usually only mild, and was often not elevated preoperatively. However, a significant portion (24 percent) of the participants developed a clinical

depression after surgery which required further treatment. Depression was also recognised to have negative impact on the individual's recovery and resumption of normal activities. Cohan et al (1989, 10) explained that it negatively influenced the individual's body image, self esteem and decreased their level of activity. Between 52-68 percent of all people undergoing coronary artery surgery were observed to experience one or more of these feelings during their recovery, and sometimes for a longer period of time (North 1988, 26; Cohan et al 1993, 187). It was argued, that generally more men than women express these feelings (Moore 1995, 499; Rankin 1992, 484). However, Artinian and Duggan (1995, 488-490) found that during the recovery period, more women experienced depression than did men. Therefore, the gender comparisons within this area were inconclusive (Cronin et al 1997, 20).

Men and women were also observed to have differing concerns which may partially result in their anxiety. More men than women were seen to be concerned about the added stress placed upon the spouse and the extent to which they must depend upon their spouse during the recovery. They were also more concerned about their physical symptoms than were women. Women however, if they have a spouse, are more concerned with ensuring that the spouse's and other family members needs were met rather than meeting their own needs. When no spouse was present, women were cited to be concerned with who will provide assistance to them during their recovery.

Women, throughout the recovery period, were noted to have a lower level of self esteem than do men. They also were cited to have a lower perception of their level of health than do men (Artinian and Duggan 1995, 488). Altered body image was a greater concern for women than men. Women often

believed that the chest scar was a disfiguring deformity which made them feel unattractive (Moore 1996a, 100; Wingate 1991, 218). Men often view the scar as a badge of honour which provided testimony to what they have been through (Moore 1995, 498).

There were also differences in the resumption of daily living activities and exercise. Women were seen to be more likely to perform household duties earlier than advised by doctors, using their family role and energy level as indicators of how much activity they could undertake. Men were found to be less likely than women to perform household tasks during their recovery but were more likely to undertake exercise out of the home than women (Hawthorne 1994, 79).

2.2.3 Spiritual Concerns

Another important consideration was that of spirituality, as this was cited to be integral to an individual's wellbeing (Clark, Cross, Deane and Lowry 1991, 68). Henley (1997, 71-73) defines spirituality as

> "a person's life orientation.....[which is expressed] through belief and action".

Muldoon and King (1995, 336 cited by Henley 1997, 76) state

> "spirituality has come to designate the way in which people understand and live their lives in view of their ultimate meaning and value. It is an experienced and lived integration which progressively becomes the unifying thread or theme of their life story. It is the fundamental identity and commitment operative in peoples' lives"

Clark et al (1991, 68) explained that spirituality not only provides a meaning system for people, it also gives them hope. Whilst there were reams of research into human spirituality, there was only a small amount specifically considering patients who have undergone coronary artery surgery, and no

research on the possible gender related differences in spiritual needs was obtainable.

Camp (1996, 56) explained that spirituality allows the individual who has undergone surgery to make sense of the situation. Paterson (1985, 249) expounded that the threat of possible death or alteration to the patient's way of life as a result of this surgery constituted a spiritual crisis. The meaning of the situation that was gained by the patient can influence his/her degree of recovery. Redeker (1992, 56) explained that when individuals were unable to gain meaning from the experience of coronary artery surgery, they used avoidance strategies such as "wishful thinking" to cope, and this was seen to impact negatively on the resumption of their day to day activities. Crumlish (1994, 64) found that there were no gender differences in coping mechanisms employed after coronary artery surgery. That is, there were equal numbers of both men and women who exhibited poor or good coping methods.

The spiritual concerns of a patient who has undergone coronary artery surgery were identified as the time to gain meaning of the situation, and the maintenance and sometimes repair of significant relationships. It is important that time is taken to discuss their concerns with others and they have a need for explanation of procedures and the possible emotional and physical responses that may be encountered. Additionally, these patients need to feel safe. Faith in one's ability to make the right decisions, faith in the medical staff caring for them and faith in God were also important components of the individual's spiritual wellbeing (Henley 1997, 227; Camp 1996, 60-61). Patients who have no family support structure were seen to often find meeting these spiritual concerns more difficult (Camp 1996, 60-61). As already discussed, women generally were older and more often single when

undergoing coronary artery surgery, this was projected to be more of a problem for women than for men. This was only one of the many possible gender differences in the lived experience of coronary artery surgery which was observed. The following section provides a summary of these differences as were documented in the literature.

2.3 Summary of the Literature Review

It has been shown that women are usually older and sicker than men when they undergo coronary artery surgery. This factor was seen to influence their recovery and their perception of the experience. Second, men and women were found to think differently about illness, surgery and their roles, which also leads to the gender differences in perception of the lived experience. This difference in orientation was perceived to arise through the sex roles, which were hypothesised to arise through socialisation, biology or a combination of these factors. It was the sex roles which were seen to determine what roles were undertaken within the family. Women often used their family responsibilities and their energy level to guide their resumption of household activities, whereas men rarely seem to perform household duties and gain their exercise outside the household.

Women in general, were viewed to have more psychological upset than men for various reasons. First women, as they are often older and single, were observed to receive less social support than men. Effective social support was documented to enhance the rate and level of recovery. Second, women perceived their chest scar as disfiguring and deforming whilst men believe it is a badge of honour which symbolised what they have endured. The majority of patients will experienced anxiety, anger and or depression. Research findings were conflicting as to which gender experiences these feelings the most. Men perceived the surgery as a major event in their lives,

and a time in which they can re-evaluate their life priorities, whereas women perceive the surgery as an unfortunate but necessary disruption to their life.

Anatomical and physiological differences were also viewed to influence the difference in gender perception of this experience. For example, men and women both experienced pain, but more men than women complained of back, neck and shoulder pain, whilst women complain more than men, and verbalised their breast and chest wall pain. Additionally, although shortness of breath occurred more commonly for men than for women, the severity was greater for women. There were however symptoms which were identified to be shared by both genders, such as loss of appetite, elimination problems and memory difficulties.

In short, although there were similarities observed through the literature in relation to the experience of coronary artery surgery for both men and women, there were substantial differences in their physical and psychological concerns which resulted in divergent perceptions of the life situation. Failure to recognise and address the different concerns were perceived to negatively impact on the rate and level of recovery. Therefore, additional research is required into the gender differences in symptomatology and psychological concerns to clarify areas where discrepancies exist, in order to provide medical staff with a greater understanding of the experience so that they, in turn, can assist men and women who are undergoing this surgery. This confirms the need for the full conduct of this study. The subsequent chapter explains the research design and methodology for this proposed study. It explores issues pertaining to phenomenological research, such as data collection and analysis, ethical considerations, the procedure of the study, reliability, validity, sampling issues and the potential problems and limitations of the study.

3. RESEARCH DESIGN AND METHODOLOGY

This chapter will explain the proposed way in which this study would be carried out. It provides an overview of qualitative research, in particular phenomenology and its relevance to the nursing domain. The adapted version of Streubert's (1991) phenomenological procedure that would be used to guide this study will be explicated. This chapter will also address issues relating to phenomenological research such as, reliability and validity, the source of the data and sampling procedures. It will also explore the procedural steps in this proposed study and address issues such as the method of data collection, ethical issues, treatment and analysis of the data and the potential problems and limitations of the study.

3.1 Methodology

Qualitative research was recognised as the only viable research design to utilise when examining what the lived experience of undergoing and recovering from coronary artery surgery means both to men and women. Qualitative research was defined by Leininger (1985, 3) as:

> the methods and techniques of observing, documenting, analysing and interpreting attributes, patterns, characteristics and meanings of specific, contextual or gestaltic features of phenomenon under study.

The purpose of qualitative research has been described as a method to comprehend and record in totality what experiencing a particular phenomenon means to those who have experienced it. It has therefore been described as a holistic research approach (Polit and Hungler 1993; May 1996, 190).

The main philosophical underpinning of qualitative research has been related to the uniqueness of humans. As such, each individual attributes different meanings to the same situation and, as a result, experiences the phenomenon differently (Liehr and Marcus 1994, 255-257). Qualitative research recognises humans to be complex beings, in that there are many factors such as, relationships with family members and past experience that can influence their experience of the phenomenon, and the meaning it has for them. Therefore, qualitative research can be described as being both human centred and holistic.

The aims of the nursing domain have been identified to be concerned with caring for the patient as a whole and is accordingly described as being holistic. The provision of nursing care has been described to revolve around the patient's needs, and to provide assistance in performing those actions they can't perform themselves, as well as to provide education and support where it is lacking. Nursing therefore, has also been described as holistic and human centred. It has been proposed that as both qualitative research and the nursing profession are concerned with people as a whole, the feelings and needs they have, the relationships they have with others, and understanding the patient's hospitalisation experience then they are both ideologically congruent (Holloway and Wheeler 1996, 2; Boyd 1993, 66).

Qualitative research has been identified as a valuable tool for increasing knowledge within the nursing domain. Hoffart (1992, 324) explained that qualitative research is a valuable component of nursing research, as through explanation and comprehension of the patient's lived experience, the nursing knowledge base is increased thereby aiding the progression of the nursing profession. It also assists in the continuous improvement and refining of care provided to patients. Nursing has been described as being both an art and a science (Leininger 1985, 22; Donaldson 1995, 6-7). Liehr and Marcus (1994, 254) stated that "qualitative research combines the scientific and artistic natures of nursing to enhance understanding of the human health experience". Qualitative research was therefore seen to be a vital approach to researching within the nursing domain, and an appropriate design to utilise when attempting to gain a greater understanding of the lived experience of undergoing coronary artery surgery, and the meaning it has for both men and for women.

Phenomenology was the chosen methodology of this study. Phenomenology is one branch of qualitative research and, as such, it provides a means of ascertaining the experience of others. Bishop and Scudder (1991, 5) stated that "phenomenology attempts to disclose the essential meaning of human endeavours. Crotty (1996, 13) expanded on this idea by explaining that the purpose of phenomenology is to make an individual's experience understandable to another by allowing the individual to discuss the meanings attributed to the situation. Cohen (1995, 159) argued that because the aim of

phenomenology is to depict the experience of another, then it is ideally suited to research in the nursing domain. Other researchers suggested that it fills in the gaps between what nurses perceive as the patient's concerns, feelings and needs, and what the patients perceive them to be. This, they suggested, can be utilised to expand the nursing knowledge base and to re-evaluate the nursing care being provided to thus ensure that the care is appropriate for the patient requirements (Lynch - Sauer 1985, 106; Young - Brockopp and Hastings - Tolsma 1989, 266-267; Mitchell and Cody 1993, 176).

Jasper (1994, 310) proposed phenomenology holds that the truth is what the participants describe the life situation as being like for them. As such, it is an objective form of research. To maintain this objectivity, researchers were advised to acknowledge and set aside any preconceived ideas and biases about the phenomenon under investigation. This process was referred to as "bracketing" (Liehr and Marcus 1994, 262). By bracketing preconceived ideas, the researcher is encouraged to allow participants to identify and explain their perception of the phenomenon, thereby allowing the participants to provide direction for the data that is collected (Mitchell and Cody 1993, 175). Once bracketing has been undertaken, the researchers are seen to be free to immerse themselves in the phenomenon, gathering descriptions from the participants to enrich the knowledge about a life situation (Jasper 1994, 31). Swansen (1990, 62) explained that when a researcher is immersed in the participant's description of the life situation, the researcher has an "experience of living the phenomenon as if it were his or her own". It was

seen to be important for this to occur so that an accurate depiction of the phenomenon was presented.

Numerous forms of phenomenology have been identified, and many of these forms have been utilised in nursing research to comprehend and describe a wide range of experiences. For example, contrasting the lived experience of infertility for men and women (Phipps 1993, 44-56), the meaning of postpartum depression for first-time mothers (Beck 1994, 486-495), the lived experience of providing care in neonatal intensive care (Swanson 1990, 60-73) and the lived experience of undergoing surgery (Cohen 1995, 159-174). However, there were no cited published phenomenological studies examining what the experience of undergoing coronary artery surgery is like for men and for women. There also were very few other forms of qualitative research available when considering this life situation. This proposed study, if it was carried out, would therefore be an important way of gaining a greater understanding of what it is like for men and for women to undergo coronary artery surgery.

This study, which proposes to explore what the lived experience of undergoing and recovering from coronary artery surgery means both for men and for women utilises an adapted version of the phenomenological approach developed by Streubert (1991, 121). There are three phases in this research design. First the preparatory work which includes the development of the study and the gaining of participants. The second phase involves data

collection and review of previous research. The third phase involves data analysis and writing of the report. Streubert (1991, 121) however, has listed 10 points which cover these three phases. Streubert's procedural steps are described as:

1. Explicating a personal description of the phenomenon of interest.
2. Bracketing the researchers presuppositions.
3. Interviewing participants in settings unfamiliar to the researcher.
4. Careful reading of the transcripts of the interviews to obtain a general sense of the essences of the experience.
5. Reviewing the transcripts to uncover essences.
6. Apprehending essential relationships
7. Developing a formalised description of the phenomenon.
8. Returning to the participants to validate the description.
9. Reviewing the relevant literature.
10. Distributing the findings to the nursing community.

These procedural steps will be followed with the exception of number 3. As the initial interview would take place in the workplace of the researcher, it would be impossible to undertake this step. Instead a journal would be kept by the researcher to record the emotions and non-verbal communication of participants in the study. The following sections demonstrate how these procedural steps have been utilised in this study. Reliability and validity of the study are essential issues which must be examined prior to undertaking the research to ensure the methodology remains unbiased.

3.2 Validity and Reliability

In any qualitative study, validity refers to how accurate the description of the phenomenon is, in relation to what was experienced by the participants (Holloway and Wheeler 1996, 162). Validity, within the realm of qualitative research has many different titles such as credibility, truth value,

trustworthiness and conformability (Appleton 1995, 995; Nolan and Behi 1995, 588; Streubert and Carpenter 1995, 46; Holloway and Wheeler 1996, 163-165). These different titles evolved in an attempt to distinguish qualitative research from quantitative research. All, however, advocate the same method of validating the research, that is, to invite the participants to read the completed description of the phenomenon, and to indicate how accurately it reflects their lived experience (Streubert 1991, 122, Appleton 1995, 995-996).

As this proposed study plans to utilise the phenomenological methodology developed by Streubert (1991, 121) validity will be ensured by undertaking the eighth step in this methodology namely to:

"return to the participants to validate the description".

This occurs once a description of the lived experience has been obtained. As indicated previously, this process will involve the participants examining the complete description of the lived experience, and then comparing it with their own, to identify any discrepancies. Streubert (1991, 122) suggested that if discrepancies between the description and the actual lived experience are brought to light, then further data collection and analysis will be required to correct the situation. Additionally, the process of bracketing undertaken by the researcher would ensure that data collection and analysis would not be tainted by personal bias (Swanson 1990, 61; Streubert 1991, 121) It is only through personal assumptions and biases being recognised and set aside, that the researcher will be able to become immersed in the participant's

description of the lived experience, allowing accurate identification of the characteristics and essences of the phenomenon (Jasper 1994, 311; Mitchell and Cody 1993, 175).

Reliability, in the qualitative realm, refers to the degree of accuracy with which the study has reflected the essences of the experience. It includes the effectiveness of the tools utilised, such as equipment and questions as well as the method of analysis (Leininger 1985, 69; Appleton 1995, 996). Reliability is implicitly considered in Streubert's methodology as a component of the validation of the description of the phenomenon(Streubert 1991, 122-123). As this study followed this design, reliability will not be examined in detail. However reliability will be enhanced by the participant's validation of the transcripts and the resultant description. Additionally, reliability will further be enhanced by utilising an audiocassette recorder to ensure all components of the initial interview are recorded, and a journal of the researcher's experience of the interviews will also be maintained (Appleton 1995, 996; Nolan and Behi 1995; 588, Cohen 1995, 165).

3.3 Source of the Data

As phenomenology requires that participants have experienced the same life situation, the population that this proposed sample would be drawn from would include all men and women who have undergone coronary artery surgery at private hospitals within New South Wales. The data would be obtained from a small number of these patients who had undergone this

surgery in one large private hospital in New South Wales. The following section examines the issues surrounding sampling in phenomenological studies and describes the proposed sample for this study.

3.4 Sampling Issues

Phenomenology by its very nature requires that those people selected to be the sample group must have experienced the same life situation (Streubert and Carpenter 1995, 43). It is seen to be important for accurate recall of memory that the participants have lived through this experience recently (Young-Brockopp and Hastings - Tolsma 1989, 268). Therefore the sample of choice is that of a purposive sample. The number of participants needed in the sample group varies greatly when phenomenology is utilised,. Streubert (1991, 121) stated that the sample size can vary from "1 to over 400". Holloway and Wheeler (1996, 78) explain that the sample size varies with the resources available, to those conducting the study, including the time and monetary resources available and the quantity of the investigators. Phenomenology, as with other forms of qualitative research, does not require a large sample group to achieve accurate results. Large sample groups were viewed to be often more problematic than beneficial in phenomenological studies because of the large amount of data generated from each participant, and the substantial amount of time spent gathering and analysing the data (Young-Brockopp and Hastings-Tolsma 1989, 286; Haber 1994, 302). Woolcott (1994 cited by Holloway and Wheeler 1996, 78) explained that a large sample size may mean that the description of the lived experience

might not be as indepth or substantial as would be obtainable with a smaller sample size. Therefore, it was perceived to be important to have a sample size which is large enough to gain an accurate depiction of the experience while it is small enough to be manageable. The determinant of the size of the sample is data saturation (Streubert 1991, 121; Liehr and Marcus 1994, 257). Data saturation was cited to occur when no new ideas or themes emerge from interviewing the participants. The further interviewing of additional participants was identified to not result in further enrichment of the description and so the outcomes would be unproductive. It was, however, recommended that a preliminary sample size be determined prior to undertaking the study and that this sample size be altered once the study was underway. In regards to data saturation (Young - Brockopp and Hastings - Tolsma 1989, 268; Holloway and Wheeler 1996, 79; Streubert 1991, 121) explained that the sample size for phenomenological research on average is four to seven people.

This study proposes to use a purposive sampling approach to gain participants. The preliminary sample size is planned to consist of eight, and is anticipated to be made up of four men and four women. The sample size of eight, based on the recommendation of Streubert (1991, 121), was chosen as the number was small enough to be manageable but one which was estimated to be large enough to gain a rich and detailed description of the experience. The final number of participants involved in the study would be determined by when data saturation was reached. This means the final

sample size may be less or greater than the proposed preliminary sample size. The next section explains the proposed data collection procedures that would be used in the undertaking of this study.

3.5 Data Collection Method

In order to identify the essential elements of what the lived experience of recovering from coronary artery surgery means to both men and women each must be interviewed separately to give them the opportunity to describe their experiences to the researcher. The third procedural step in Streubert's (1991, 121) phenomenological methodology is **"interviewing participants in settings unfamiliar to the researcher"**. As this was not appropriate for this study, it was adapted and instead it was planned that participants would be interviewed in an area which was familiar to the researcher and a journal of the interviews would be maintained by the researcher to further enrich the description of the experience. Lynch-Sauer (1985, 98) explained that keeping a journal of the researcher's reflections on the interviews will aid the researcher in determining which elements are more meaningful to the participants, thereby increasing in data collection, and assisting in data analysis. Holloway and Wheeler (1996, 70) explained that journaling is a valuable means for documenting the participant's non-verbal behaviour during the interview. This also was seen to assist in data collection by providing an indication of the participant's reactions to the lived experience.

The initial interviews were planned to be audiotaped and transcribed after the interview. Audiotaping the interview was cited to allow for the most accurate recording of the participant's responses (May 1996, 191; Carey and Hawkes 1990, 41). Further it was cited by (Britten 1995, 253; Carey 1994, 41) that it does however, take the participant a short period of time to become accustomed to the presence of the audiocassette recorder. Writing notes as the interview is progressing was perceived to interfere with the interview process by distracting the participant, and may result in the researcher missing a vital element of the experience. The following section will outline the proposed plan of data collection.

3.6 Procedure for Data Collection

This section explains how the sample would be obtained for the proposed study, and the way in which the data would be collected.

Each potential participant would be approached to join the study on their admission to the hospital in which the study is planned to be conducted, and would be provided with an information letter and consent form regarding the study. The potential participants would be English speaking, over eighteen years of age, competent to give consent and be scheduled to undergo coronary artery srugery. (See Appendix 1 Page 77 for a copy of the consent form and information letter on page 78 overleaf). The participants would be informed that they would be contacted on their fifth postoperative day to determine their interest in being involved in the study, and to obtain voluntary

consent from those interested in participating. At this stage a mutually convenient time would be established to conduct the initial taped interview the following day.

It is important for the researcher to acknowledge and bracket any preconceived ideas or bias about the study under investigation in order to prevent the tainting of data. This would be undertaken in this proposed study prior to the interviews. The initial interview is aimed at gaining a complete picture of the participant's experience. All participants will be posed the same two open-ended questions.

1. "Describe any feelings and physical concerns or sensations you have experienced as a result of your surgery. Start from the beginning and continue until you have nothing further to say. Take all the time you need."

2. "How has this surgery influenced you and your families' way of life?" If further clarification was needed the question will be rephrased to "How has the surgery affected you and your family?"

At the completion of this interview the participant will be given the telephone interview and transcript validation consent form which will be collected prior to their discharge. Participants will be given a copy of their consent forms to keep for future reference.

The second phase of data collection for this proposed study involves a telephone interview. Participants would be contacted during their fifth week postoperatively to arrange a mutually convenient time for the interview during their sixth postoperative week.

During the follow-up telephone interview which will be transcribed from written notes, the participants will be asked

1. Is there anything you wish to add to or delete from the transcript of your last interview?
2. Have your concerns or feelings changed since the last interview?

It is proposed that data collection will continue until saturation has been reached. After data collection has commenced, data analysis will begin. All forms of research have ethical issues that must be addressed. The following section demonstrates how the ethical requirements are met by this proposed study.

3.7 Ethical Considerations

Ethical concerns arise in all research studies and are centred around the need to protect the rights of all those involved in the research. The American Nurses Association (1985 cited by Jackson 1994, 322) states the rights of an individual includes:

- Right to self determination
- Right to privacy and dignity
- Right to anonymity and confidentiality
- Right to fair treatment
- Right to protection from discomfort and harm.

Couchman and Dawson (1990 cited by Eddie 1994, 182) expand on this description of human rights in relation to research by adding the right to refuse and the right not to be denied services if a refusal to participate in the research project is given.

Informed consent is not only an ethical imperative but also a legal one (Bartos, Sexton and Taggart 1991, 39). Harrison (1993, 189) explains that informed consent relates to the maintenance of autonomy and self-determination of the person involved, as well as indicating the value placed on the person as an individual. Munhall (1993, 400) believes that being permitted to examine some aspect of another's life is a great honour, and that informed consent is the written evidence of the participant's allowing the researcher to delve into areas of his or her life which is secret, private or sensitive. The Code of Federal Regulations in America (1983 cited by Jackson 1994, 322) defines informed consent to be:

> The knowing consent of an individual or his/her legally authorised representative, under circumstances that provide the prospective subject or representative sufficient opportunity to consider whether or not to participate without undue inducement or any element of force, fraud, deceit, duress, or other forms of constraint or coercion.

The three main elements of informed consent that can be gleaned from the above definition are knowing consent, time to decide whether or not to participate in the research, and voluntary participation in the study. In order to provide informed consent, the prospective participants must have explained to them the reason for the study, why the study is needed, and how the information will be used. The participants must also be informed of what participation in the research will entail, the duration of the study, and of any potential benefits or risks that may arise from being involved in the research. A description of how confidentiality will be maintained is also essential, as is the voluntary participation and the right to withdraw from the study at any time (Behi and Nolan 1995, 713-714; Harrison 1993, 189; Polit and Hungler 1993, 359-360).

Holloway and Wheeler (1995, 224-225) believe that there are difficulties in obtaining informed consent for qualitative research, as the specific themes or main areas of interest in the study do not emerge until the study is in progress, and so researchers are not able to explain to the participants the precise route that the study will follow. Therefore, informed consent in qualitative research means the participants have had explained to them the role their information has in guiding the study, and that informed consent, whether verbal or written, should be obtained from the participants at each interview, after each participant has been informed that he/she may withdraw from the study at any time, or decline to answer any question without fear of

reprisal (Holloway and Wheeler 1993, 224-225; Munhall 1994, 403). By undertaking this, the researcher ensures that a knowing consent has been obtained, that participants have had time to decide whether or not they wish to remain in the study, and that they are participating voluntarily.

This study planned to maintain informed consent by explaining to potential participants upon initial contact that the purpose of the study was to explore what the lived experience of undergoing and recovering from coronary artery surgery was like for men and for women. The prospective participants also would have explained to them that their involvement in the study would entail an audio taped face-to-face interview in the hospital the day prior to their discharge, in which they would be asked to describe their feelings and thoughts about their lived experience. It would also be indicated to them that a typed copy of the interview transcript would be forwarded to them either for alteration or validation of accuracy. It was also explained that a follow-up telephone interview would take place during their sixth week of recovery, and that they would be contacted during the fifth week of recovery to determine whether or not they wished to remain in the study and if so, to establish a mutually convenient time for the telephone interview.

The participants would be given time to decide whether or not they wished to participate in the study, subsequently they would be approached on admission and given an information letter and consent form prior to surgery and would be approached again on the fifth post-operative day to determine

their interest in participating. If they were interested in participating, they would be asked to give written consent and a mutually convenient time would be arranged for the taped face-to-face interview for the next day. Participants would also be reminded that involvement in the study was voluntary, that declining to be involved would not influence their care, and that they could refuse to answer any question, or withdraw from the study at any time without fear of reprisal. This planned approach was established to maintain the participant's right to fair treatment (Ayer 1994, 805). (See Appendix 1 Page 77 for a copy of the consent form).

The potential risks and benefits of being involved in the study would be discussed at the initial meeting and again on the second meeting. The potential risk of being involved in this study was the feeling of being uncomfortable and infringed upon due to private thoughts and feelings being brought out into the open due to the intrusive nature of phenomenological research (Holloway and Wheeler 1995, 224-225). This potential risk could be negated by reminding the participants that they were guiding the study by talking about what they wanted to discuss and by reassuring them that only the researcher had access to the documents which linked participants and their code numbers. This meant that only the participant and the researcher knew which transcript belonged to which participant. Additionally, as the researcher worked in this area she would take time off during the course of the study so that the presence of the researcher on the ward would not influence the participant's agreement to participate in the study.

The potential benefit of the investigation that was identified was the aid of clarifying the meaning of the lived experience for the individual participant undergoing and recovering from coronary artery surgery. Discussion of feelings, and the meanings a person connects with an experience, necessitates thinking about the topic so that it can be verbalised in a manner which is understandable to the listener. This not only aids the participant in clarifying the situation in their mind, but also provides a means of discussing their emotions and thoughts with another person without fear of judgement, which can enhance the rate of their recovery (Cohan, Pimm and Jude (1989, 198-203; Patterson 1978, 100; Sotile 1992, 4-5; Jasper 1994, 312). Therefore, the researcher needs to establish before the study that any potential benefits to the participants involved in the study outweighed any potential risk that may eventuate.

Another important ethical aspect of phenomenological and other forms of qualitative research is that of confidentiality and anonymity. Qualitative research is often intrusive by nature, as participants are asked to describe their thoughts and feelings about a particular life situation which may not normally have been brought into the public arena. Confidentiality is therefore important to maintain the privacy of the participants (Streubert and Carpenter 1995, 44; Blaskett 1996, 21). It was planned in this study that this would be maintained by restricting the number of people that have access to the data. This means that the data gathered would not be shared with anyone outside

of the study and the participants' identity would not be made known. Confidentiality would also be maintained by conducting the interview in a private setting which is free from interruptions. Any documents which connect the participants with their particular transcript would be kept in a secure location separate from the transcripts and the audiocassettes. The transcripts and tapes would also be kept separate in different secure locations. Code numbers would be allocated to participants so that only the researcher and the participant would be able to identify which transcript belongs to which participant. As previously indicated, this information would be stored securely, apart from the other material relating to the study. Anonymity, in the strictest sense, means that all those involved in conducting the study, even the researcher, would not be able to link an identity with a transcript (Jackson 1994, 324). Polit and Hungler (1993, 363-364; Jackson 1994, 324-325; Munhall 1993, 404-406; Holloway and Wheeler 1995, 226-227) suggested that in qualitative research, particularly when interviews are used as a tool for gathering the data, it is difficult to maintain this, therefore, only the researcher should be able to identify the real identity of the participant, with others involved in the study only knowing the code names or numbers, and all transcripts and tapes should have only the code name or number for identification.

In this study anonymity and confidentiality would be maintained to the highest degree possible given the nature and design of the study. Only the researcher would know the real identity of the individuals, with each

participant being given a code number, and pseudonyms being used when others were referred to in the transcript. This would further disguise the identities of the participants. All documents that link identities with code numbers would be kept separate from the tapes and the transcripts and all would be kept in secure locations. All tapes and transcripts would be labelled with code numbers only, to further ensure confidentiality. The face-to-face interviews would be conducted in an empty office on the ward to prevent others listening to the interview, thereby maintaining privacy and to preclude interruptions. Participants would be given a consent form to complete at the end of the face-to-face interview, for the telephone interview, and for review of the transcript. The consent form was planned to include a space for the participants to write their names and addresses to facilitate the posting of the transcript for them to review. The consent forms would also be kept in a secure location separate from the other information relating to the study. (See Appendix 2 Page 79 for a copy of this second consent form). All articipants would be informed that the consent forms and list of real identities and corresponding code numbers would be destroyed once the study was completed, to ensure confidentiality and anonymity were maintained. The risk of discomfort or harm would be almost completely negated by allowing the participants to guide the study by discussing what they personally felt about their experience and by informing them that they could refuse to answer any question, or withdraw from the study at any time. The following section explains the planned data analysis process for this proposed study.

3.8 Treatment and Analysis of the Data

As indicated in the previous section, all transcripts, tapes and identifying information will be kept separately in secure locations with the transcripts and tapes being labelled with code numbers only.

Bracketing is not only important to consider when collecting the data, but also when analysing the data, to ensure that any bias the researcher may have does not influence the analysis of the data. Data analysis begins once the first transcript has been typed.

The initial data analysis action for this study, in accordance with the procedural steps explained by Streubert (1991, 121), will consist of reading the typed transcripts to gain a broad overview of what the nature of undergoing coronary artery surgery is like for both men and women. In addition, the journal entries will be analysed in the same way to enrich the description of the lived experience. It will be seen to be important that a general understanding of the lived experience be gained before the essences of that life situation is explicated (Beck 1994, 459; Lynch - Sauer 1989, 100). This process will involve reading each transcript several times not only to ensure the transcript is a precise copy of the audiocassette recording, but also to aid the researcher to become immersed in the data (Streubert 1991, 122; Cohen 1995, 167).

The next step in the data analysis process will be to expose the essences of the experience. This activity will involve extricating the important testimony from the transcripts and transferring these statements onto index cards, with the researcher's early analysis of the statement being written onto the other side of the index card. This manual method is advocated by Streubert (1991, 122), who suggests that it aids in classifying the data into themes at a later stage. For example, "this surgery means that I will never again be able to wear a low-cut dress", could be one statement drawn out of a transcript. Early analysis of this statement would be "dislikes chest wound scar". This would later be classified under the theme of altered body image.

In the third stage of data analysis, the essences identified in the earlier phases will be compared to identify common themes among the participant's responses. This data will also indicate how the themes relate to, and in some instances, influence other themes (Mitchell and Cody 1993, 176; Streubert 1991, 122; Liehr and Marcus 1994, 264). Once the themes are compared, the final step will be completed with comprehensive descriptions of the gender-related lived experiences of undergoing and recovering from coronary artery surgery being formulated (Streubert 1991, 122; Young - Brockopp and Hastings - Tolsma 1989, 269).

After a complete description of the gender related lived experience of undergoing and recovering from coronary artery surgery is developed, the description will be returned to the participants to assess for validity. This will

ensure the accuracy of the reflected experience. This proposed study however, is not without problems, which will be explored in the following section.

3.9 Potential Problems and Limitations of the Proposed Study

All studies which involve more than one phase, such as this proposed study, often experience mortality (Parahoo 1997, 200). Mortality refers to the loss of subjects through death or their desire to withdraw from the study. In relation to this study, the potential problem of mortality could be overcome by recruiting additional participants if necessary, to reach data saturation and to ensure the validity of the description.

Another potential problem, that may be encountered in this proposed study, is participants providing the researcher with information about their lived experience which is not accurate. This may occur if the participant believes they are providing the researcher with the answers they want, or if the issue is too sensitive for the participant to provide a true answer. These answers should be included as they are part of what the participant describes as their lived experience, but may not be the complete description of their lived experience. The maintenance of a journal of the interviews can uncover possible discrepancies between what the participant verbalises and any non-verbal behaviours which may aid the researcher in determining which elements are more meaningful to the participants. Journalling may therefore,

negate the effect of inaccurate descriptions being given (Lynch-Sauer 1985, 98; Holloway and Wheeler 1996, 70).

One limitation of this proposed study is that it planned to utilise participants who had undergone elective coronary artery surgery. People who had undergone emergency surgery at the same hospital may have had a different lived experience. Another limitation is that phenomenology, by its very nature, means that the results of this study could not be generalised to the larger population of all people undergoing and recovering from coronary artery surgery (Parahoo 1997, 62-63; May 1996, 190). Notwithstanding these limitations, this proposed study provides a valuable means of exploring the lived experience of men and women undergoing and recovering from coronary artery surgery.

3.10 Research Design and Methodology Summary

This proposed study utilised phenomenology, a qualitative research design to plan to explore the lived experience of undergoing coronary artery surgery, from the perspective of both men and women. Phenomenology is ideally suited to nursing, as both have been described as person-centred and holistic, recognising the complexity of human interactions and the uniqueness of human beings. The particular phenomenological methodology adapted for this study was developed by Streubert (1991, 121).

The population that this proposed sample for this study would be drawn from is all the men and women undergoing and recovering from coronary artery surgery at private hospitals in New South Wales. The purposive sample in this proposed study, it is planned, will be gleaned from one of these private hospitals. The preliminary sample size is planned to include eight people, four men and four women, as on average phenomenological research utilises 4-7 subjects. Both men and women are included in order to explore the gender differences in this lived experience. The determinant of the final number of participants is data saturation, which occurs when no new themes emerge from the date (Streubert 1991, 121).

Reliability and validity are important in any phenomenological research study, and are concerned with the accuracy of data collection and analysis. A valid and reliable study is one which precisely depicts the lived experience of the participants. Reliability and validity are enhanced through the self reflection process of bracketing, whereby the researcher sets aside any bias to prevent tainting the data collection and analysis. Additionally, the use of audiocassettes ensures accuracy of data collection. Validation of the transcripts and the description of the lived experience by the participants completes the validation of the proposed study.

Data collection processes were anticipated to be achieved through the use of audiotapes of interviews conducted in the hospital, which would then be transcribed, through the utilisation of journalling and through transcribing the

telephone interviews. Data analysis processes were planned to begin after the first transcript had been received. Data analysis, it is planned, would involve obtaining an overview of the lived experience, uncovering the essences and determining their connections, and finally developing a description of this lived experience.

Ethical concerns were predicted to arise in all forms of research studies and pivot around the protection of human rights. The main ethical considerations in phenomenological research were perceived to be that of informed consent, voluntary participation, anonymity and confidentiality. These ethical requirements were planned to be addressed by this study. The potential problems that were foreseen were also planned to be addressed by this study. The limitations of this proposed study were identified as exclusion of people undergoing emergency coronary artery surgery, and the fact that this study may only be generalised to people undergoing and recovering from coronary artery surgery in private hospitals in New South Wales. The next chapter considers the suggested findings that may have been obtained had this study been carried out.

4. PROPOSED FINDINGS

This chapter will discuss the proposed findings of what undergoing and recovering from coronary artery surgery means for both men and women. These probable results will be based upon those studies analysed in the literature review.

Phenomenology requires that essences and essential relationships be identified before a complete description of the phenomenon can be obtained (Streubert 1991, 122). This requires coding of the data to recognise essences and in turn discover the relationships between the themes that emerge. Throughout the literature review, common themes emerge to illustrate the gender related meanings that characterise the perception of this lived experience.

Undergoing coronary artery surgery is undoubtedly a crisis for all patients as they face their own mortality (Yarcheski and Knapp-Spooner 1994, 58; Henley 1997, 10). However, men and women have an overall differing perception of the experience in that women perceive the life situation as being only an unfortunate disruption to their life, whilst men perceive coronary artery surgery as an event with supreme importance in their life, as it is seen to threaten not only their life but their wellbeing after the surgery (Hawthorne 1994, 78; Cronin et al 1997, 20). There are several reasons that may explain this difference. First, as women are generally older and have more comorbidities than men at the time of the procedure, it may be perceived as a consequence of aging and therefore be less of a shock for women than for men (O'Connor et al 1993, 2105; Rahimtoola et al 1993, II-83). Alternatively, it may be a major life crisis for men, who are often younger than women undergoing this surgery, to suddenly face the fact that they are

not as strong or as infallible as they thought they were, and this often results in re-evaluation of life and priorities (Henley 1997, 16; Cronin et al 1997, 21).

Second, this difference may be influenced by sex roles and the resultant roles undertaken within the family. Through the sex role socialisation, women learn to be more passive and less confrontationalist than men. The sex roles form the basis of the illness roles and as such, women may be more readily able to face coronary artery disease and resultant surgery. Additionally, women may minimalise the impact this surgery has on their lives, as they are more concerned with meeting the needs of the other family members before their own, whereas men are more focused on ensuring their own needs are met (Lupton 1994, 287; Hatner 1989, 15; Moore 1995, 499).

Another proposed finding is that of difference in perception of surgical wound scars. Women are more likely to describe these scars as disfiguring, thereby making them unattractive, whereas men are more likely to be proud of their scars, as it provides evidence that they have survived a life crisis (Hawthorne 1994, 78). This perceptual difference may again result in part from the socialisation process, where women are portrayed as being beautiful and flawless in order to be attractive. It also may be influenced in part by the alteration in body image (Moore 1995, 498; Wingate 1991, 218).

It is predicted that the majority of patients will experience some degree of anxiety, anger and depression, as these are common feelings after coronary artery surgery (Fulcher 1993, 947; North 1988, 26). However, due to the contradictory nature of research findings, (for example Artinian and Duggan 1995, 488-490; Rankin 1992, 484), it cannot be predicted whether more men or more women will experience these symptoms, and to what severity. Another area where findings are difficult to predict is that of spiritual

concerns. Spiritual concerns have been described as a time to gain meaning of the experience and to discuss concerns, maintenance and repair of significant relationships and having faith in one's own decision making ability, the medical staff and God (Henley 1997, 227; Camp 1996, 60-61). However, no gender comparisons have been postulated in this area, and given that men and women think differently about their roles, illness and surgery it is possible that men and women may place greater emphasis on differing spiritual concerns. It is only through further investigation that answers will be provided to this quandary.

All patients undergoing coronary artery surgery will experience pain (Moser and Dracup 1995, 278). However, it is proposed that the pain presentation will differ between the genders. Women, it is proposed, would experience more chest incisional and breast pain than men whereas men would experience more leg, neck, shoulder and back pain than women (Moore 1996a, 101; Wu 1995, 6). It is predicted that the level of pain will decrease for both genders throughout the recovery period (King and Parrinello 1995, 711).

Another proposed physical concern of patients is that of sleeping. This concern also decreases throughout the recovery period (King and Parrinello 1988, 711). This is another area in which gender comparisons are contradictory. For example, Moore (1995, 498) found this to be a bigger problem for men, whilst Artinian and Duggan (1995, 487-488) found no gender differences. Therefore, it cannot be proposed which gender would encounter the most sleeping difficulties. It is also proposed that both men and women will experience difficulties in relation to eating and elimination, and that this would more likely affect women than men, but would decrease in

severity for both genders during the recovery period (Moore 1995, 498; Wu 1995, 4; King and Parrinello 1988, 711).

It is proposed that all patients will experience problems with their level of energy throughout the recovery period and fatigue easily (Cohen et al 1989, 108-109). However, it is suggested that more men than women will encounter this symptom (Moore 1995, 498). This difficulty will decrease for all women during the recovery period but increase for men (King and Parrinello 1988, 711; Moore 1995, 498). It is also proposed that patients of both genders will experience memory problems during their recovery, but that these difficulties will ease over the time of recovery (Fulcher 1993, 46; Cohen et al 1989, 96).

Additional proposed findings relate to resumption of daily activities of living. It is suggested that women will use their level of energy, and their family duties as guides for resumption of household duties. It is further suggested that women will more likely only gain their exercise within the household. Generally men follow guidelines provided by medical staff which are given to them prior to their discharge and will perform few if any household duties (Hawthorne 1994, 78; Cronin et al 1997, 20).

The final proposed finding is concerned with shortness of breath. Kasterman (1995, 25) expounds that 53 percent of people experience difficulty breathing post operatively. Moore (1995, 498) found that this was experienced more often by men than by women. However, as there was only one study found which examined the gender comparison of this symptom, it is proposed that the majority of patients may experience this problem, but it can only be tentatively suggested that more men than women will experience shortness of breath. It is only through undertaking this planned study in its entirety that

the proposed findings and projected conclusions, which are derived from the literature review, will be either confirmed or rejected. The following chapter will discuss the projected conclusions of this study and provide recommendations for further studies.

5. PROJECTED CONCLUSIONS

Through the literature review it has been shown that men and women experience coronary artery surgery differently. It is undoubtedly a life crisis for all patients which impacts upon all areas of their life. It is projected that women commonly minimalise the impact of this surgery whilst men perceive it as a life altering event. Additionally, it is proposed that women and men encounter differing symptoms throughout the recovery period. However, there are several areas evident on review of the literature that either present contradictory information or provide no gender analysis. In particular, the symptoms of shortness of breath, sleeping problems and negative emotions are areas in which contradictory results have been shown. Therefore, more research is required to enhance the knowledge of gender related differences in relation to the encountering of these symptoms and feelings. More research is also required into the gender comparison of spiritual concerns and needs, in order to gain a greater understanding of this facet of human life.

This proposed study, based on the literature, has indicated that the lived experience of undergoing coronary artery surgery is different for men and women both physically and psychosocially. An understanding of these differences is essential for nursing as it provides an indication of how to meet the differing educational needs of patients undergoing coronary artery surgery, as well as guiding nursing care so that it can be refined where necessary in order to be gender appropriate.

REFERENCES

Abraham, C. and Shanley, E. 1992. Social Psychology For Nurses. London: Edward Arnold.

Allen, J.K. 1990. Physical and Psychosocial Outcomes after Coronary Bypass Graft Surgery: Review of the Literature. Heart and Lung, 19, 1, 49-55.

Appleton, J.V. 1995. Analysing Qualitative Interview Data: Addressing Issues of Validity and Reliability. Journal of Advanced Nursing, 22, 5, 993-997.

Artinian, N.T. and Duggan, C.H. 1995. Sex Differences In Patient Recovery Patterns After Coronary Artery Bypass Surgery. Heart and Lung, 24, 6, 483-494.

Ayanian, J.Z. and Epstein, A. 1991. Differences In The Use Of Procedures Between Women And Men Hospitalised For Coronary Heart Disease. The New England Journal Of Medicine, 325, 4, 221-225.

Ayanian, J.Z., Guadagnoli, E. and Cleary, P.D. 1995. Physical And Psychosocial Functioning Of Women And Men After Coronary Artery Bypass Surgery. JAMA, 273, 22, 1767-1770.

Ayers, S. 1994. Submitting a Research Proposal for Ethical Approval. Professional Nurse, 9, 12, 805-806.

Barrett-Connor, E. & Bush, T.L. 1991. Oestrogen And Coronary Heart Disease In Women. JAMA, 265, 14, 1861-1867.

Bartos, B., Sexton, P.R. and Taggart, J.A. 1991. The Institutional Research Review Board. In Matee, M.A. and Kirchoff, K.T. (Eds.). Conducting and Using Nursing Research in the Clinical Setting. Baltimore: Williams and Wilkins.

Baxter, J. 1992. Families And Households. In Lupton, A., Short, P.M. and Whip, R. (Eds.) Society And Gender. An Introduction To Sociology. Melbourne: Macmillan.

Beck, C.T. 1994. The Lived Experience of Postpartum Depression. A Phenomenological Study. In Lo Biondo-Wood, G. And Haber, J. (Eds.). Nursing Research: Methods, Critical Appraisal and Utilization (3rd ed.). St Louis: C.V. Mosby.

Behi, R. And Nolan, M. 1995. Ethical Issues in Research. British Journal of Nursing, 4, 12, 712-716.

Bishop, A. And Scudder, J. 1991. Nursing: The Practice of Caring. New York: National League For Nursing Press.

Blaskett, B. 1996. Human Research Ethics Committees And Principles For Ethical Psychosocial Research. Health Issues, 47, 1, 20-23.

Blaxter, M. 1995. What is Health. In Davey, B., Gray, A. and Seale, C. (Eds.). Health and Disease. A Reader. (2nd ed.). London: Open University Press.

Boyd, C.O. 1993. Philosophical Foundations Of Qualitative Research. In Munhall, P. And Boyd, C.O. (Eds.). Nursing Research: A Qualitative Perspective. (2nd ed.). New York: National League For Nursing.

Britten, N. 1995. Qualitative Interviews in Medical Research. British Medical Journal, 311, 6999, 251-253.

Callan, V.J., Galloise, C., Noller, P. and Kashima, T. 1991. Social Psychology (2nd ed.). Sydney: Harcourt Brace Jovanovich.

Carey, G. And Hawkes, C. 1994. Good Questions. Nursing Times, 90, 12, 40-41.

Clark, C.C., Cross, J.R., Deane, D.M. and Lowry, L.W. 1991. Spirituality: Integral to Quality Care. Holistic Nursing Practice, 5, 3, 67-76.

Cohan, C., Pimm, J.B. and Jude, J.R. 1989. The Heart Surgery Hardbook. A Patients Guide. Sydney: Equinox.

Cohen, M.Z. 1995. The Experience Of Surgery: Phenomenological Clinical Nursing Research. In Omery, A, Kasper C.E. and Page G.A. (Eds.). In Search of Nursing Science. Thousand Oaks: Sage.

Colditz, G.A., Willett, W.C., Stampfer, J.J., Rosner, B., Speizer, F.E. and Hennekens, C.H. 1987. Menopause And The Risk Of Coronary Heart Disease In Women. The New England Journal Of Medicine, 316, 18, 1105-1110.

Cronin, S.N. 1990. Psychosocial Adjustment To Coronary Artery Disease: Current Knowledge And Future Directions. Journal of Cardiovascular Nursing, 5, 1, 13-24.

Cronin, S.N., Logsdon, C. And Miracle, V. 1997. Psychosocial And Functional Outcomes In Women After Coronary Artery Bypass Surgery. Critical Care Nurse, 17, 2, 19-24.

Crotty, M. 1996. Phenomenology And Nursing Research. Melbourne: Churchill-Livingstone.

Crumlish, C.M. 1994. Coping And Emotional Response In Cardiac Surgery Patients. Western Journal Of Nursing Research, 16, 1, 57-68.

Donaldson, S.K. 1995. Nursing Science For Nursing Practice. In Omery, A., Kasper, C.E. and Page G.G. (Eds.). In Search of Nursing Science. Thousand Oaks: Sage.

Eaker, E.E., Johnson, W.D., Loop, F.D. and Wenger, N.K. 1992. Heart Disease In Women: How Different? Patient Care, 26, 3, 191-204.

Eddie, F.C.T. 1994. Moral and Ethical Dilemmas In Relation To Research Projects. British Journal of Nursing, 3, 4, 182-184.

Eysmann, S.B. and Douglass, P.S. 1993. Coronary Heart Disease: Therapeutic Principles. In Douglas, P.S. (Ed.). Cardiovascular Health and Disease in Women. Philadelphia: W.B. Saunders.

Fulcher, G. 1993. The Impact Of Coronary Artery Disease And Coronary Artery Bypass Graft Surgery On Quality Of Life Of Patients And Their Spouses. Unpublished Doctoral Thesis, University of Sydney, New South Wales.

Gorman, C. 1995. How Gender May Bend Your Thinking. Time, 30, 6, 59.

Graham, I. 1994. How Do Registered Nurses Think and Experience Nursing. A Phenomenological Investigation. Journal of Clinical Nursing, 3, 4, 235-242.

Gray, J. 1992. Men Are From Mars, Women Are From Venus. London: Thorsons.

Haber, J. 1994. Sampling. In Lo Biondo-Wood, G. And Haber, J. (Eds.). Nursing Research: Merthods, Critical Appraisal and Utilisation (3rd ed.). St Louis: C.V. Mosby.

Hafner, R.J. 1989. Health Differences Between Married Men and Women: The Contribution Of Sex-Role Stereotyping. Australian and New Zealand Journal of Family Therapy, 10, 1, 13-19.

Harrison, L. 1993. Issues Related To The Protection Of Human Research Participants. Journal of Neuroscience Nursing, 25, 3, 187-193.

Hawthorne, M.H. 1994. Gender Differences In Recovery After Coronary Artery Surgery. Image: Journal of Nursing Scholarship, 26, 1, 75-80.

Haynes, S.G. and Czajkowski, S.M. 1993. Psychosocial and Environmental Correlates of Heart Disease. In Douglas, P.S. (Ed.). Cardiovascular Health and Disease in Women. Philadelphia: W.B. Saunders.

Henley, R. 1997. Cardiac Rehabilitation, Spiritual Needs and Pastoral Care At Sydney Adventist Hospital. Unpublished Doctoral Thesis, Fuller Theological Seminary, California.

Hoffart, N. 1992. Qualitative Research: Beyond Open-ended Questions. ANNA Journal, 19, 3, 324.

Hudak, C.M. and Gallo, B.M. 1994. Critical Care Nursing. A Holistic Approach (6th ed.). Philadelphia: J.B. Lippincott.

Iyer, V.S., Russell, W.J., Leppard, P. and Craddock, D. 1993. Mortality And Myocardial Infarction After Coronary Artery Surgery. The Medical Journal of Australia, 159, 3, 166-170.

Jaarsma, T., Kastermans, M., Dassen, T. and Philipsen, H. 1995. Problems Of Cardiac Patients In Early Recovery. Journal of Advanced Nursing, 21, 1, 21-27.

Jackson, B.S. 1994. Legal And Ethical Issues. In Lo Biondo-Wood, G. and Haber, J. (Eds.). Nursing Research; Methods, Critical Appraisal and Utilisation (3rd ed.). St. Louis: C.V. Mosby.

Jasper, M.A. 1994. Issues In Phenomenology For Researchers Of Nursing. Journal of Advanced Nursing, 19, 2, 309-314.

Jensen, L. And King, K.M. 1997. Women and Heart Disease: The Issues. Critical Care Nurse, 17, 2, 45-53.

King, K.B. and Parrinello, K.A. 1988. Patient Perceptions Of Recovery From Coronary Artery Bypass Grafting After Discharge From The Hospital. Heart and Lung, 17, 6, 708-715.

Leininger, M. 1985. Nature, Rationale and Importance Of Research Methods In Nursing. In Leininger, M. (Ed.). Qualitative Research Methods in Nursing. Philadelphia: W.B. Saunders.

Liehr, P.R. and Taft-Marcus, M. 1994. Qualitative Approaches To Research. In Lo Biondo-Wood, G. And Haber, J. (Eds.). Nursing Research: Methods, Critical Appraisal and Utilisation (3rd ed.). St Louis: C.V. Mosby.

Lupton, G. 1992. Health and Illness: A Case Study. In Lupton, G., Short, P.M. and Whip, R. (Eds.). Society and Gender. An Introduction to Sociology. Melbourne: Macmillan.

Lynch-Sauer, J. 1985. Using A Phenomenological Research Method To Study Nursing. In Leininger, M.M. (Ed.). Qualitative Research Methods In Nursing. Philadelphia: W.B. Saunders.

Manolio, T.A. and Harlan, W.R. 1993. Research On Coronary Disease In Women: Political Or Scientific Imperative? British Heart Journal, 69, 1, 1-2.

Mathew, J.P., Parks, R., Savino, J.S., Friedman, A.S., Koch, C., Mangano, D.T. and Browner, W.S. 1996. Atrial Fibrillation Following Coronary Artery Bypass Graft Surgery. Predictors, Outcomes and Resource Utilisation. JAMA, 276, 4, 300-306.

Mathews, K.A., Meilahn, E., Kuller, L.H., Kelsey, S.F., Caggiula, A.W. and Wing, R.R. 1989. Menopause And Risk Factors For Coronary Heart Disease. The New England Journal Of Medicine, 321, 10, 641-646.

May, C. 1996. More Semistructured than Structured? Some Problems With Qualitative Research Methods. Nurse Education Today, 16, 3, 189-192.

Mickleborough, L.L., Takagi, Y., Maruyama, H., Sun, T. and Mohamed, S. 1995. Is Sex A Determining Operative Risk For Aortocoronary Bypass Graft Surgery? Circulation, 92, 9, II-80 - II-83.

Mitchell, G.J. and Cody, W.K. 1993. The Role Of Theory In Qualitative Research. Nursing Science Quarterly, 6, 4 170-178.

Moore, S.M. 1995. A Comparison Of Women's And Men's Symptoms During Home Recovery After Coronary Artery Bypass Surgery. Heart and Lung, 24, 6, 495-501.

Moore, S.M. 1996a. CABG Discharge Information. Addressing Women's Recovery. Clinical Nursing Research, 5, 1, 97-104.

Moore, S.M. 1996b. The Effects Of A Discharge Information Intervention On Recovery Outcomes Following Coronary Artery Bypass Surgery. International Journal of Nursing Studies, 33, 2, 181-189.

Morse, J.M. 1991. Strategies For Sampling. In Morse, J.M. (Ed.). Qualitative Nursing Research. A Contemporary Dialogue. California: Sage.

Moser, D.K. 1994. Social Support And Cardiac Recovery. Journal of Cardiovascular Nursing, 9, 1, 27-36.

Moser, D.K. and Dracup, K. 1995. Psychosocial Recovery From A Cardiac Event: The Influence Of Perceived Control. Heart and Lung, 24, 4, 273-280.

Munhall, P.L. 1994. Revisioning Phenomenology: Nursing And Health Science Research. New York: National League For Nurses.

Murdaugh, C. 1990. Coronary Artery Disease In Women. Journal of Cardiovascular Nursing, 4, 4, 35-50.

National Heart Foundation of Australia 1992. Heart Facts. Canberra: National Heart Foundation of Australia.

Nolan, M. And Behi, R. 1995. Alternative Approaches To Establishing Reliability And Validity. British Journal Of Nursing, 4, 10, 587-590.

North, N. 1988. Psychosocial Aspects Of Coronary Artery Bypass Surgery. Nursing Times, 84, 1, 26-29.

Notter, L.E. and Hott, J.R. 1994. Essentials of Nursing Research(5th ed.). New York: Springer.

O'Connor, G.T., Morton, J.R., Diehl, M.J., Olmstead, E.M., Coffin, L.H., Levy, D.G., Maloney, C.T., Plume, S.K., Nugent, W., Malenka, D.J., Hernandez, F., Clough, R., Birkmeyer, J., Marrin, C.A.S. and Leavitt, B.J. 1993. Differences Between Men And Women In Hospital Mortality Associated With Coronary Artery Bypass Graft Surgery, Circulation, 88, 5, 2104-2110.

O'Connor, W.J., Morton, J.R., Birkmeyer, J.D., Olmstead, E.M. and O'Connor, G.T. 1995. Effect Of Coronary Artery Diameter In Patients Undergoing Coronary Bypass Surgery. Circulation, 93, 4, 652-655.

Orencia, A., Bailey, K., Yawn, B.P. and Kottke, T.E. 1993. Effect Of Gender On Longterm Outcome Of Angina Pectoris And Myocardial Infarction/Sudden Unexpected Death. JAMA, 269, 18, 2392-2397.

Parahoo, K. 1997. Nursing Research: Principles, Process and Issues. London: Macmillan.

Paterson, G.W. 1985. Pastoral Care Of The Coronary Patient And Family. The Journal Of Pastoral Care, 39, 3, 249-261.

Patterson, G.W. 1978. The Cardiac Patient. Minneapolis: Augsburg

Polit, D.F. and Hungler, G.P. 1993. Essentials Of Nursing Research: Methods, Appraisals and Utilization (3rd ed.). Philadelphia: J.B. Lippincott.

Rahimtoola, S.H., Bennett, A.J., Grunkemeier, G.L., Block, P. and Starr, A. 1993. Survival At 15 to 18 Years After Coronary Bypass Surgery For Angina In Women. Circulation, 88, 5, 11-71 - 11-78.

Rankin, S.H. 1990. Differences In Recovery From Cardiac Surgery: A Profile Of Male And Female Patients. Heart and Lung, 19, 5, 481-485.

Rankin, S.H. 1992. Psychosocial Adjustments Of Coronary Artery Disease, Patients And Their Spouses: Nursing Implications. Nursing Clinics Of North America, 27, 1, 271-284.

Ray, M.A. 1994. The Richness Of Phenomenology: Philosophic, Theoretic and Methodologic Concerns. In Morse, J.M. (Ed.). Critical Issues In Qualitative Research Methods. California: Sage

Redeker, N.S. 1992. The Relationship Between Uncertainty And Coping After Coronary Bypass Surgery. Western Journal of Nursing Research, 14, 1, 48-68.

Riegel, B. and Gocka, I. 1995. Gender Differences In Adjustment To Acute Myocardial Infarction. Heart and Lung, 24, 6, 457-466.

Romeo, K.C. 1995. The Female Heart: Physiological Aspects Of Cardiovascular Disease In Women. Dimensions Of Critical Care Nursing, 14, 4, 170-177.

Ruberman, W. 1992. Psychosocial Influences On Mortality Of Patients With Coronary Heart Disease. JAMA, 267, 4, 559-560.

Schuster, P.M. and Waldron, J. 1991. Gender Differences In Cardiac Rehabilitation Patients. Rehabilitation Nursing, 16, 5, 248-253.

Shinn, J.A. 1992. Management Of A Patient Undergoing Myocardial Revascularisation: Coronary Artery Bypass Graft Surgery. Nursing Clinics of North America, 27, 1, 243-257.

Short, P.M. 1992. Education: Making Men And Young Ladies. In Lupton, G., Short, P.M. and Whip R. (Ed.). Society And Gender. An Introduction to Sociology. Melbourne: Macmillan.

Sotile, W.M. 1992. Heart Illness and Intimacy. How Caring Relationships Aid Recovery. Baltimore: John Hopkins.

Steingart, R.M., Packer, M., Hamm, P., Coglianese, M.E., Gersh, B., Geltman, E.M., Sollano, J., Katz, S., Moyle, I., Basta, L.L., Lewis, S.J., Gottlieb, S.S., Berstein, V., McEwan, P., Jacobson, K., Brown, E.J., Kukin, M.L., Kantrowitz, N.E. and Pfeffer, M.A., 1991. Sex Differences In The Management Of Coronary Artery Disease. The New England Journal Of Medicine, 325, 4, 226-230.

Streubert, H.J. 1991. Phenomenologic Research As a Theoretic Initiative In Community Health Nursing. Public Health Nursing, 8, 2, 119-123.

Streubert, H.J. and Carpenter, D.R. 1995. Qualitative Research In Nursing. Advancing The Humanistic Imperative. Philadelphia: J.B. Lippincott.

Summers, J., Borland, R. and Walker, M. 1989. Psychology. An Introduction. Brisbane: John Wiley and Sons.

Swanson, K. 1990. Providing Care In The NICU: Sometimes An Act Of Love. Advances In Nursing Science, 13, 1, 60-73.

Thompson, D.R. and Webster, R.A., 1992. Caring For The Coronary Patient. London: Butterworth.

Van Brussel, B.L., Plokker, T., Ernst, S., Ernst, N.M., Knaepen, P.J., Koomen, E.M., Tijssen, J.G., Vermuelen, F.E., and Voors, A.A. 1993. Venous Coronary Artery Bypass Surgery. A 15 Year Followup Study. Circulation, 88, 5, 11-87 - 11-92.

Van De Graaff, K.M. and Fox, S.I. 1986. Concepts Of Human Anatomy And Physiology. Dubuque: W.C. Brown.

Waters, M. and Crook, R. 1990. Sociology One. Principles of Sociological Analysis for Australians. (2nd ed.). Melbourne: Longman Cheshire.

Weintraub, W.S., Craver, J.M., Cohen, C.L., Jones, E.L., and Guyton, R.A. 1991. Influence Of Age On Results Of Coronary Artery Surgery. Circulation, 84, 5, 111-226 - 111-235.

Weintraub, W.S., Wegner N.K., Jones, E.L., Craver, J.M. and Guyton, R.A. 1993. Changing Clinical Characteristics Of Coronary Surgery Patients. Differences Between Men and Women. Circulation, 88, 5, II-79 - II-86.

Wenger, N.K. 1993. Coronary Heart Disease: Diagnostic Decision Making. In Lupton, G., Short, P.M. and Whip, R. (Eds.). Society And Gender. An Introduction To Sociology. Melbourne: Macmillan.

Williams, J.K., Adams, M.R. and Klopfenstein, H.S. 1990. Oestrogen Modulates Responses Of Arteriosclerotic Coronary Arteries. Circulation, 81, 5, 1680-1687.

Williams, R.B., Barefoot, J.C., Califf, R.M., Haney, T.L., Saunders, W.B., Pryor, D.B., Hlatky, M.A., Siegler, I.C. and Mark, D.B. 1992. Prognostic Importance Of Social And Economic Resources Among Medically Treated Patients With Angiographically Documented Coronary Artery Disease. JAMA, 267, 4, 520-524.

Wilson, P.W.F., Garrison, P.J. and Castelli, W.P. 1986. Oestrogen Use in Post Menopausal Women. The New England Journal Of Medicine, 315, 2, 135-136.

Wingate, S. 1991. Women And Coronary Heart Disease. Implications For The Critical Care Setting. Focus On Critical Care, 18, 3, 214-220.

Wise, M. and Graham-Clarke, P. 1994. Cardiovascular Health In Australia. A Review Of Current Activities And Future Trends. Canberra: Australian Government Publishing Service.

Wu, C. 1995. Assessment Of Post Discharge Concerns Of Coronary Artery Bypass Graft Patients. Journal Of Cardiovascular Nursing, 10, 1, 1-7.

Yarcheski, A. and Knapp-Spooner, C. 1994. Stressors Associated With Coronary Bypass Surgery. Clinical Nursing Research, 3, 1, 57-68.

Young-Brockopp, D. And Hastings-Tolsma, M.T. 1989. Fundamentals Of Nursing Research. Boston: Scott Foresman.

APPENDIX 1

CONSENT FORM FOR INITIAL INTERVIEW

I .....hereby agree to participate in this study on gender differences in the experience of coronary artery surgery recovery. I understand that I am not obligated to participate in this study and that I can withdraw at any time without fear of reprisal. I have had the purpose and method of the study explained to my satisfaction, as well as what role I would play in it.

I give my consent to having this interview audiotaped and transcribed. I understand that anonymity and confidentiality will be maintained and that I will be given a code number with only the researcher knowing my identity. I have been assured that the tapes, transcripts and the record of the coding and this form will all be destroyed once the study is complete. I understand that the results from this study may be published, but that they will not identify me.

Avondale College requires that all participants are informed that if they have any complaint concerning the manner in which a research project is conducted, it may be given to the researcher, or if an independent person is preferred, to the College's Human Research Ethics Committee's Secretary, Avondale College, PO Box 19, Cooranbong, NSW 2265, or phone (02) 4980 2118, fax (02) 4980 2118.

Signed: ..... Witness: .....

Date: .....

Avondale College - Wahroonga Campus
Supervisor - Dr Alan Gibbons
Tel: (02) 9487 9601
Fax: (02) 9487 9625

Principal Researcher: Ms Fiona Taylor
Tel: (02) 9651 3235

Dear Patient,

I am currently undertaking a research study at Avondale College to explore the gender differences in the lived experience of undergoing and recovering from coronary artery surgery. I want to talk with men and women who have undergone coronary artery surgery at the hospital which you have been admitted to, in order to gather information on how this lived experience is perceived.

The first phase of this study will involve an audiotaped interview in a private office on the ward prior to discharge, and will last up to one hour. The interview will then be transcribed and a copy posted to you for alteration or validation. The second phase involves a telephone interview to ascertain whether your feelings or concerns have changed. This telephone interview will last approximately thirty minutes.

Once all the information has been collated, a description of the lived experience will be posted to you for alteration or validation. These copies are yours to keep. The data collected from these interviews will remain confidential with only the researcher having access to them. All participants will be given a code number which will be present on all transcripts and tapes with only the researcher knowing the identities to maintain confidentiality. The tapes and transcripts will be destroyed once the study has been completed.

You will be contacted on your fifth postoperative day to determine whether you are interested in becoming voluntarily involved in this study. If you are, consent will be obtained at that time with you keeping a copy of the form and this letter. However, it is important to remember that you can refuse to answer any questions or withdraw from the study at any time without fear of reprisal.

If you have any questions about the study, please contact me or my supervisor on the above telephone numbers.

Yours sincerely,

Fiona Taylor
Registered Nurse
Post-graduate student, Avondale College.

APPENDIX 2

TELEPHONE INTERVIEW - VALIDATION CONSENT

I voluntarily agree to be interviewed over the telephone as part of my participation in this study on gender differences in the experience of coronary artery surgery.

I understand that confidentiality and anonymity will be maintained, and that I will not be identified if the results are published. I am aware that I may withdraw at any time without reprisal.

Please send the copy of my transcript and, at a later date, the completed description of the experience to:

Name: .....

Address:

.....

I can be contacted during the fifth week of my recovery to arrange a mutually convenient time for the telephone interview during the sixth week on:

Phone: .....

Signed: ..... Witness: .....

Date: .....

Avondale College requires that all participants are informed that if they have a complaint concerning the manner in which a research project is conducted it may be given to the researcher, or if an independent person is preferred, to the College's Human Research Ethics Committee's Secretary, Avondale College, PO Box 19, Cooranbong, NSW 2265, or phone (02) 4980 2118, fax (02) 4980 2118.

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