CHAPTER 1

INTRODUCTION

Background and Significance of the Research Problem

Coronary artery disease [CAD] is a significant public health problem worldwide. It is the leading cause of death which accounted for 7.2 million deaths in 1996, and is expected to cause more than 11 million deaths in 2020 (World Health Organization [WHO], 2008). The prevalence of CAD also has been escalating worldwide especially in European and other westernized countries (Waring, 2007). In the United States of America [USA], a developed western country, an estimated 16.3 million Americans who has age twenty years old or more have CAD (American Heart Association [AHA], 2012).

In the same way as the USA, Thailand, a developing country in South East Asia, has also been facing rapidly increasing numbers of CAD patients. In 2001, the prevalence of CAD patients was 111.13 per hundred thousand of the population (Bureau of Policy and Strategy, 2012a). This increased to 310.16 per hundred thousand populations in 2010 (Bureau of Policy and Strategy, 2012b). Specifically, in the northern part of Thailand, the prevalence of CAD patients in 2001 increased from 140.40 per hundred thousand of the population (Bureau of Policy and Strategy, 2012a) to 312.69 per hundred thousand of the population in 2010 (Bureau of Policy and Strategy, 2012b). At Maharaj Nakorn Chiang Mai Hospital, a university hospital and a major treatment center for heart disease in the northern part of Thailand, the

number of new cases of CAD patients increased from 475 persons in 2001 to 1,480 persons in 2011 (Report from Maharaj Nakorn Chiang Mai Hospital, personal communication, 2012). These figures confirm that CAD is a serious public health problem in Thailand.

Treatments for CAD vary according to the severity of the disease, the location of blockages in the blood vessels, the presence of cardiac risk factors (e.g. abnormal cholesterol profile or hypertension), and the overall health of individual patients (Waring, 2007). Treatment options for CAD are risk factors modification, medications, medical interventional procedures (e.g. percutaneous transluminal coronary angioplasty [PTCA] or angioplasty with stent, artherectomy), and surgical interventional procedures (e.g. coronary artery bypass grafting [CABG], transmyocardial laser revascularizarion [TMLR] (American Association of Cardiovascular and Pulmonary Rehabilitation [AACVPR], 2006). Risk factors modification, medications, and medical interventional procedures are tried first depending upon the progression of the disease. If those following treatment options do not work, CABG is then considered (Simoons & Windecker, 2010).

Coronary artery bypass grafting is a gold standard treatment for the patients who have a severe progression of CAD that cannot be controlled by medications or medical interventional procedures (Taggart, 2009). This procedure involves bypassing diseased sections of the coronary arteries by a blood vessel graft to improve the blood supply to the heart muscle. It is an effective method of treatment for angina and dyspnea (Hawkes, Nowak, Bidstrup, & Speare, 2006). It also prolongs life of patients with severe coronary artery disease including those who have stenosis of left main coronary artery, triple vessel disease (stenosis of left main coronary artery, left

anterior descending coronary artery, and right coronary artery disease), poor function of the left ventricle, and high risk for acute myocardial infarction, cardiogenic shock, and sudden death (Aupart, Nevile, Tahir, Axelroud, May, & Sacher, 2003; Eagle, Guyton, Davidoff, Edwards, Ewy, Gardner et al., 2004).

In the recent years, there has been a progressive increase of the number of patients undergoing CABG worldwide (Schofield, 2003). This increase has also been observed in Thailand. In 2001, 1,731 cases underwent a CABG in Thailand. This figure increased to 4,402 cases in 2011 (The Society of Thoracic Surgeons of Thailand, 2012). In the northern part of Thailand, Maharaj Nakorn Chiang Mai Hospital is where the majority of CABGs are performed. The hospital increased its capacity to perform CABG from 124 in 2001 to 242 in 2011 (The Society of Thoracic Surgeons of Thailand, 2012). Every week, there are approximately forty new CAD patients who require surgical treatment for CAD which surpasses the surgical capacity of 20 cases per week. At this point of time, there are more than 1,000 cases waiting for surgical interventions (O.P.D.1 Report, Maharaj Nakorn Chiang Mai Hospital, personal communication, 2012). Therefore, the current demand for CABG has exceeded the capacity of this hospital.

Priority selection for CABG among CAD patients depends upon the severity of the disease. Patients who are less stable in regards to the constellation of CAD symptoms, prognosis, and medical history such as unstable angina, recent acute myocardial infarction, and cardiogenic shock are considered to be emergency cases and are immediately scheduled for the CABG. Patients who are more stable in regards to their CAD symptomology and prognosis are classified as elective cases and are waitlisted (Kurki, Kataja, & Reich, 2003). Therefore, those who are waitlisted

may be rescheduled repeatedly depending upon their medical status in relation to others on the list, thereby lengthening wait times for surgery. In the USA, Germany, and Canada, the average wait times for CABG surgery were 6, 21, and 37 days, respectively (Ott, Mazer, Tudor, Shore-Lesserson, Snyder-Ramos, Finegan et al., 2007). At Maharaj Nakorn Chiang Mai Hospital, an average wait time for CABG surgery is 120 days (O.P.D.1 Report, Maharaj Nakorn Chiang Mai Hospital, personal communication, 2012). This indicates that the wait time for CABG surgery in Thailand is longer than in other countries.

The wait time for CABG surgery is the most critical time for patients (Petrie, Cox, Teskey, Campbell, & Johnstone, 1996). Knowing about their uncontrollable CAD which requires inevitable major heart surgery, compounded with the long period of wait time, obviously the CAD patients are put into a critical situation. The realization of this stressful situation actually starts when the CAD patients are first told by their cardiologist that they have to undergo a CABG (Bresser, Sexton, & Foell, 1993). Since the progression of CAD is still active, it is possible for the CAD patients to experience adverse coronary events such as unstable angina and myocardial infarction while waitlisted for CABG. In addition, patients have to deal with other symptoms that arise from ischemic heart disease and heart failure like angina, dyspnea, and fatigue (Koomen, Hutten, Kelder, Redekop, Tijssen, & Kingma, 2001).

In Thailand, all potential CABG candidates prepare extensively for the surgical procedure. When the schedule for CABG is set, every patient gets individualized preoperative health education information from the cardiac center's nurse coordinator. The patient information presented by the nurse coordinator

includes patient's current condition, explanation of CABG surgery, symptom management, available health services nearby in their hometown, dental preparation, appraisal of the date to stop taking antiplatelet drug, the date of admission, and other various tasks to prepare for admission. After receiving this information, patients return home and manage their lives during the wait time. At home, they must strictly adhere to their medication regimen (i.e. aspirin or antiplatelet drugs, nitrates, beta blockers, statins, and angiotensin converting enzyme [ACE] inhibitors) and consider lifestyle modification to control the progression of the disease. Simultaneously, patients have to monitor their symptoms, know how to manage those symptoms, and be able to access and gain maximum benefits of the available resources. Finally, a week before the operation, patients have to stop taking their antiplatelet drug and other supplements to prevent bleeding both peri and post-operatively. During this time, patients must make and maintain choices that permit the CABG candidate to be in the best possible condition to undergo the CABG without the use of some drugs and supplements.

During the wait time, patients encounter physical, psychological, and social challenges (Cesena, Favarato, Cesar, De Oliveira, & Da Luz, 2004; Fitzsimons, Parahoo, & Stringer, 2000; McCormick, Naimark, & Tate, 2006). Various western studies detailed that physical symptoms and a progression of the disease condition are common in patients waiting for CABG. Koomen et al. (2001) found that seven out of three hundred and sixty patients who were waiting for CABG surgery suffered from a myocardial infarction and thirty three episodes of unstable angina requiring immediate hospitalization. Moreover, the progression of the disease from myocardial infarction and heart failure caused severe symptoms of chest pain and dyspnea that

affected the quality of patients' daily lives. This is supported by the study of Bengtson, Herlitz, Karlsson and Hjalmarson (1996) which found that chest pain was reported as the most disturbing symptom among patients waiting for CABG surgery in forty four percent of seven hundred and eighty six patients. This study further revealed that dyspnea/dyspnea on exertion and weakness were significantly associated with the severity of chest pain, that is, the more severe the chest pain, the higher the frequency the symptoms were reported. Similarly, Jonsdottir and Baldursdottir (1998) studied the experience of seventy two Icelandic persons awaiting CABG surgery. This study found that the most prominent physical problems that occurred during a wait period were fatigue (72.2%), shortness of breath (45.8%), and chest pain (37.5%). Patients reported that their symptoms got worse during the wait period. The worsening of their symptoms also made them fearful that they might die while waiting for surgery like other people they had known in the same situation.

A Thai patients' study, Bunkong (2009) studied symptoms experiences of sixty patients waiting for CABG surgery in the south of Thailand. She found that among twenty five symptoms, the five top most common physical symptoms that occured during the wait period were chest pain/chest discomfort (80.0%), fatigue/weakness (66.7%), chest pain with referred pain (55%), indigestion/ abdominal distension (51.7%), and dyspnea/shortness of breath/difficulty breathing (50.0%). In short, the studies of both Western and Thai patients confirms that patients suffered from CAD related symptoms while waiting for CABG surgery.

In regards to psychological and social problems, Underwood, Firmin, and Jehu's (1993) study involving sixty eight Western patients awaiting CABG surgery indicates that the duration of the wait time was positively and significantly related to

an increase in anxiety and depression, as well as impairments of work, family relationships, leisure and social activities. Among the 68 patients nearly half of CAD patients in this study suffered clinically significant depression. In addition, Banner (2010) explored experiences of becoming a CABG patient from thirty United Kingdom women with CAD waiting to undergo CABG surgery. This study found that the wait period was characterized as a time of uncertainty, complicated by deteriorating health, worsening functional limitations and a growing fear of death and disability. Patients also revealed that they were fearful of having a heart attack and they thought that fear was the main problem during the wait period. In addition, Fitzsimons, Parahoo, and Stringer (2000) explored the experience of seventy patients waiting for CABG surgery. Findings revealed the dominant themes that affected their patients' lives during waiting period were uncertainty and anxiety. Uncertainty regarding how long they would have to wait, anxiety about the threat their heart problem posed to their lives, and anxiety about the impending operation was reported during this period. This study indicated that many patients disclosed that their family relationships had been altered because of their illness, principally as a result of their roles and responsibilities being undermined. Some patients also reported that their health had restricted their social contacts and affected their ability to socialize. Similar to the study of Jonsdottir and Baldursdottir (1998), this study found that patients reported the waiting period to be the most difficult time for them. During this period, they were dissatisfied with life, their health, emotional condition, work, finance and social relations.

In Thailand, Bunkong's (2009) study of sixty southern Thai patients waiting for CABG surgery found that almost fifty percent of these patients reported

psychological symptoms occurring throughout the wait time. The common psychological symptoms occurring were fear/fright (48.3%), stress/anxiety (48.3%), and uncertainty (46.7%). Note that no specific type of fear/fright, stress/anxiety, and uncertainty was identified in this study. However, it is evident that a number of psychological problems occur while awaiting CABG surgery are faced by both Western and Thai patients.

Most available studies of persons awaiting CABG surgery have originated in Western countries. There is a paucity of knowledge regarding how Thai patients cope with a similar situation. Also, the studies of person awaiting CABG surgery were mostly conducted using quantitative method from the healthcare providers' perspective and using a biomedical model which focused on the biological process rather than the social and emotional process of the individual. Results from previous studies, therefore, cannot clearly explain the experiences and the life management of persons awaiting CABG surgery, especially within the Thai context. Since Thai and Western cultures are different, one cannot assume that all things are equal between the two cultures. Such differences can influence how individuals perceive health or illness, influencing management or coping choices during the wait for the surgery. Hence, the biomedical model cannot capture cultural-driven behaviors and thoughts, and hinders the process of acquiring an insider's perspective which is important to understanding the genuine situation (Abelson, Rupelet, & Pincus, 2008).

The qualitative descriptive approach as suggested by Sandelowski (2000), draws from naturalistic inquiry, is an approach to provide a full description of the lived experience of persons awaiting CABG. The method allows the researcher to explore a rich description of feelings, thoughts, attitudes, or concerns relating to an

experience or an event. It is an empirical method of investigation aimed at describing the informant's perception and experience of their world. This approach is considered a useful method for research in health care because it captures and portrays a true insider's perspective by focusing on the experiences of patients, relatives and professionals, and providing a rich and exact description of the experience or the event. Moreover, it is valuable for seeking an understanding of the issues in order to improve nursing practices.

To gain insight into the lived experience of persons awaiting CABG, the qualitative descriptive approach was employed in this study. Understanding informants' individual situations about what they were doing to manage difficulties and constrains enriches the understanding of health care providers. In addition, it provides important knowledge in order to initiate comprehensive interventions to enhance health and well-being while awaiting CABG surgery.

Research Objective

The objective of this study was to understand the lived experience of persons awaiting CABG. The specific objectives of this study were:

1. To describe the experience of persons awaiting CABG.
2. To explore the life management of persons awaiting CABG.

Research Question

The main question of this study was "What was the lived experience of persons awaiting CABG?" In order to achieve the purpose of this study, the specific questions of this study were:

1. How did persons awaiting CABG describe their experiences?
2. How did persons awaiting CABG manage their lives?

Definition of Terms

The terms used in this study are defined as follows:

Persons awaiting coronary artery bypass grafting were defined as people who had undergone CABG no more than three months after surgery and have the experience of waiting for CABG.

The wait time for CABG was defined as the time from when the CAD patients were told by cardiologist that they had to undergo CABG to the time patients underwent the CABG surgery.