ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิต ผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ

นางสาวปัฐยาวัชร ปรากฏผล

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THE EFFECT OF COMPREHENSIVE CARDIAC NURSING PROGRAM ON HEALTH RELATED QUALITY OF LIFE IN CORONARY HEART DISEASE PATIENTS

Miss Padthayawad Pragodpol

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ปัฐยาวัชร ปรากฏผล : ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ (THE EFFECT OF COMPREHENSIVE CARDIAC NURSING PROGRAM ON HEALTH RELATED QUALITY OF LIFE IN CORONARY HEART DISEASE PATIENTS) อ. ที่ปรึกษาวิทยานิพนธ์หลัก: รศ. ร.ต.อ. หญิง ดร. ยุพิน อังสุโรจน์, อ. ที่ปรึกษาวิทยานิพนธ์ร่วม: รศ.ดร. สุรีพร ธนศิลป์, 333 หน้า

การศึกษาวิจัยนี้มีวัตถุประสงค์เพื่อพัฒนาโปรแกรมการพยาบาลแบบรวบยอดในการพัฒนาคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ การวิจัยนี้เป็นแบบการทดลองมีกลุ่มควบคุมทดสอบก่อนและหลัง กลุ่มตัวอย่างเป็นผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจครั้งแรก จำนวน 74 ราย แบ่งเป็นกลุ่มทดลองและกลุ่มควบคุมด้วยวิธีการสุ่มแบบบล็อค จำนวนกลุ่มละ 37 ราย ผู้ป่วยในกลุ่มควบคุมได้รับการดูแลตามปกติ ผู้ป่วยในกลุ่มทดลองได้รับการดูแลตามปกติร่วมกับโปรแกรมการพยาบาลแบบรวบยอดเป็นเวลา 8 สัปดาห์ โปรแกรมการพยาบาลแบบรวบยอดถูกพัฒนาขึ้นจากแนวคิดการจัดการตนเองของ Kanfer and Goelick-Buy (1991) โดยมุ่งเน้นให้ผู้ป่วยมีความสามารถในการจัดการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ได้แก่ การจัดการด้านอาหาร การจัดการด้านมีกิจกรรมและการออกกำลังกาย การจัดการด้านการงดสูบบุหรี่ และการจัดการกับความเครียด ตามแนวคิด Ornish's heart disease reversal program (Ornish, 1990) และองค์ความรู้ที่ได้จากการทบทวนวรรณกรรม การดำเนินการตามโปรแกรมนี้แบ่งออกเป็น 4 ระยะ ได้แก่ 1) ระยะการประเมินพฤติกรรมเสี่ยงเกี่ยวกับโรคหลอดเลือดหัวใจ 2) ระยะเตรียมการ 3) ระยะปฏิบัติการและ 4) ระยะประเมินผลในการการจัดการตนเอง สื่อที่ใช้ประกอบโปรแกรมการพยาบาลแบบรวบยอด ได้แก่ คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ วิดีทัศน์การจัดการตนเองสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ และสมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจ เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลคุณภาพชีวิต ได้แก่ดัชนีคุณภาพชีวิตสำหรับผู้ป่วยโรคหัวใจ มีการตรวจสอบความเที่ยงโดยสัมประสิทธิ์อัลฟาครอนบาคมีค่าเท่ากับ .95 การวิเคราะห์ข้อมูลใช้สถิติ Independent t-test และ pair t-test

ผลการศึกษาพบว่าภายหลังการเข้าร่วมโปรแกรมการพยาบาลแบบรวบยอด ผู้ป่วยในกลุ่มทดลองมีคะแนนคุณภาพชีวิตโดยรวมและคุณภาพชีวิตรายด้านได้แก่ ด้านสุขภาพและการทำหน้าที่ ด้านสังคมและเศรษฐกิจ ด้านจิตใจและจิตวิญญาณ และด้านครอบครัว สูงกว่าก่อนการทดลองและสูงกว่ากลุ่มควบคุมที่ได้รับการดูแลตามปกติ อย่างมีนัยสำคัญทางสถิติที่ระดับ .05

สาขาวิชา พยาบาลศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2553 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก .....

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์ร่วม .....

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PADTHAYAWAD PRAGODPOL: THE EFFECT OF COMPREHENSIVE CARDIAC NURSING PROGRAM ON HEALTH RELATED QUALITY OF LIFE IN CORONARY HEART DISEASE PATIENTS. ADVISOR: ASSOC. PROF. YUPIN AUNGSUROCH, Ph.D., R.N., CO-ADVISOR: ASSOC. PROF. SUREEPORN THANASILP, D.N.S., A.P.N., R.N., 333 pp.

The purposes of this research were to develop and evaluate the effective of a comprehensive cardiac nursing program (CCNP) on the health related quality of life (HRQOL) in first diagnosed coronary heart disease (CHD) patients. This study was randomized control trial two group pretest and posttest research design. The sample, 74 first diagnosed CHD patients were randomly assigned to the experimental or control group by using blocked randomization, consisting of 37 subjects in each group. The participants in the control group received usual care, whereas the participants in the experimental group received the CCNP together with usual care within 8 weeks. The CCNP was developed based on the self-management model of Kanfer and Goelick-Buy (1991). The CCNP emphasized patients' risky health behavior management including diet management, physical activity and exercise management, smoking cessation management, and stress management based on Ornish's heart disease reversal program (Ornish, 1990), and existing knowledge. The experimental group underwent 4 phases: 1) the risky health behavior assessment, 2) the preparation phase, 3) the practice phase, and 4) the evaluation phase. The media of this program were composed of DVD concerning the risky health behaviors management of CHD patients, a coronary heart disease booklet, and a diary heart book. The instrument for collecting the HRQOL was Quality of Life index-cardiac version IV (Ferrans & Powers, 1984; 1998), whose internal consistency was proved by Cronbach's alphas coefficient = .95. The independent t-test and pair t-test were used for data analysis.

The result revealed that the overall HRQOL scores and in all domains of health and functioning, social and economic, psychological and spiritual, and family of the experimental group at posttest were significantly higher than the pretest and the control group ($p<.05$). The finding indicated that the CCNP effectively improved the HRQOL in first diagnosed CHD patients.

Field of Study : Nursing Science Student's Signature Padthayawad Pragodpol

Academic Year : 2010 Advisor's Signature Yupin Aungsuroch

Co-advisor's Signature Sureep Th

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CHAPTER I

INTRODUCTION

Background and significance of the Study

Coronary Heart Disease (CHD) is an incurable serious progressive chronic disease. Particularly, first diagnosed CHD patients have a new experience of life threatening illness that includes a risk of death as much as 15 times higher than general population (American Heart Association [AHA], 2003). They also have a history of risky health behaviors that caused an increase in cardiac risk factors leading to their current health problems. All of these problems significantly contributed to low health related quality of life (HRQOL) (Deaton and Namasivayam, 2004; Fitzsimons, Parahoo, and Stringer, 2000; Lukkarinen, 1999; Rubenach et al., 2002).

Nowadays CHD has been a crucial health problem being importance burden for health care system worldwide (Mathers and Loncar, 2006; Mathers, Lopez, and Murray, 2001; WHO, 2002). Populations around the world were death from coronary heart disease about 17.5 million in the year 2005, and increase to 25 million in the year 2020.

Thailand, CHD is the 3rd leading cause of death and trend of morbidity from this disease is also increasing every year (Ministry of Public Health [MPH], 2007). According to a report of non communicable disease department, Ministry of Public Health (2010), the CHD morbidity rate in 2007 was 262.32 up to 359.34/100,000 population in 2009. The reason for increasing of CHD patient is due to Thai people has increased in cardiac risk factors from non healthy lifestyle that lead their current health problems.

The diagnosis of CHD causes the patients to shift, often quite unexpectedly, from the role of healthy person to the role of a patient, and to be upsetting and shocking disruption of everyday life. These things did not proceed smoothly, but precede long – term personal crisis with various problems (Lukkarinen, 1999). Immediately after the life-threatening disease process including CHD becomes evident, patients place substantial burdens on the health, economic status, and HRQOL of individuals, families, and communities (Chodosh et al., 2005). All HRQOL dimensions of CHD patients were negatively affected by disease occurrence (Beck, 2001; Brink, Karlson, and Hallberg, 2002; 2006; Boini et al., 2005; Lukkarinen and Hentinen, 1997; Mendes de Leon et al., 1998; Plevier et al., 2001; Worcestor et al., 2007).

HRQOL is a construct which means the extent to which perceived health or response to changing health status impacts an individual. HRQOL refers to the impact of health conditions, their symptoms, and its treatments on individual's quality of life (Ferrans et al., 2005). For this study, HRQOL is defined as "first diagnosed CHD patients' sense of well-being that stems from life satisfaction with the specific aspects of life in health and functioning, social and economic, psychological/spiritual, and family as a whole that are important to him/her".

The findings from previous studies showed that first diagnosed CHD patients have lower HRQOL in all dimensions of HRQOL (Benzer, Hofer, and Oldridge, 2003; Brink et al., 2002; Daly et al., 2000; Kristofferzon, Lofmark, and Carlson, 2005; Lukkarinen, 2005; Worcestor et al., 2007). They had low scores and the slowest recovery in the physiological dimension especially in physical functioning, and physical component (Brink et al., 2002; Worcestor et al., 2007).

In addition, these studies also found low scores in psychological and social dimensions with emphasis on emotional distress and limitation, the sum of mental components scores, social functioning, and social isolation. The mean HRQOL score of first diagnosed CHD patients was 56.89 from a possible 100 (Siriporn Leingkobkij, 1999). The HRQOL scores of Thai post myocardial infarction patients were not good at 65.78 percent (Chantana Lortajakul, 2006).

An overall reduction of HRQOL in first diagnosed CHD patients caused by all health problems (Chan, Chau, and Chang, 2005) in physiological, psychological, socioeconomic, and spiritual. All health problems were developed from their risky health behaviors related to increased cardiac risk factors (Bengtsson, Hagman, and Wedel, 2001; Brink et al., 2006; Drory et al., 2002; Rubenach et al., 2002; Siriporn Leangkobkij, 2001; Westin et al., 1997). The underlying mechanism of their health problems can be traced from coronary arteries occlusion by atherosclerotic plague that influenced by cardiac risk factors and risky health behaviors. All of these processes were resulted in health problems which influence the patient views of his/her health related quality of life.

Persons who have risky health behaviors including eating high cholesterol diet consumption, lack of physical activity and exercise, cigarette smoking, having chronic life stress, and inadequate relaxation behaviors (Chulaporn Changperk, 2001; Rozanski, Blumenthal, and Kaplan, 1999; Supatra Thumatisthan, 2000) were related to increase cardiac risk factors. Cardiac risk factors are the factors that significantly contributed to the coronary arteries occlusion from the atherosclerosis plaque (Supatra Thumatisthan, 2000) including type A personality, obesity, and having comorbidities such as hypertension, diabetes mellitus, hypercholesterolemia (Linchong Pothiban et

al., 2000). All of these risky health behaviors increase cardiac risk factors which causes the onset and recurrence of coronary occlusion (Sirilak Sriprasong, 2000).

In addition, after being diagnosed with CHD, 70.7 percent of patients showed and still retained risky health behaviors regarding the consumption of high cholesterol food (Supatra Thumatisthan, 2000; Thitaporn Keinwong, 2004). Most of patients rarely exercised and did not understand its usefulness (Chanpen Chuprapawan, 2000; Atchara Poungkeaw, 1997) and some patients do not resume activity or over exertion of activities (Chulaporn Changperk, 2001; Sirilak Sriprasong, 2000). CHD patients have continued smoking 76.5 percent (Boonyanee Wongmaneewan, Chamaiporn Twichsri, and Chayanthorn Pathummanont, 2002). CHD patients have psychological distress related to their health problems and their lives due to having no understanding about their illness (Dixon et al., 2000; Stewart et al., 2000).

The health problems of first diagnosed CHD patients were apparent through the signs and symptoms particularly chest pain, changes in physical condition, failure to attain a previous level of functional status and well being (Drory et al., 2002; Hildingh, Fridlund, and The MISS-W Study Group, 1997; Jaarsma et al., 1995; Lukkarinen, 2005). The signs and symptoms of CHD patients were occurred with stress, anxiety, depression, and uncertainty (Brink et al., 2006; Dixon et al., 2000; Stewart et al., 2000). They often failed to return to normal social function and could not maintain their family and financial responsibility. They have experienced interpersonal problems relating to friends and family, convalescence, and vocational problems (Dixon et al., 2000; Jaarsma et al., 1995). Their heart was no longer healthy and their life will never be the same again (Lukkarinen, 1999). They were living with many significant health problems, fears about a recurrence of myocardial infarction

and limitations imposed by their illness and risk of coronary events that may cause further complications, hospital readmissions, cardiac damage and death (Bengtsson et al., 2004; Lukkarinen, 1999).

All risky health behaviors, cardiac risk factors, and health problems as mentioned previously are regarding the first diagnosed CHD patients and contributed to low HRQOL. The onset of chronic illness leads to a change overall by reducing opportunities for satisfaction in important life domains (Schwartz and Sprangers, 2000). The diagnosis of CHD causes many changes in the lives of the patients and their families (Lukkarinen and Kyngas, 2003) that they have to manage when confronted with a life threatening chronic disease like CHD.

The existing knowledge found that first diagnosed CHD patients who participated in comprehensive cardiac program had improved HRQOL (Campbell et al., 1998; Lisspers et al., 1998; Tingstrom et al., 2005; Warrington, Cholowski, and Peters, 2003; Yu et al., 2003; 2004). In addition, Hofer et al (2006a) revealed that their comprehensive cardiac program had improved both cardiac risk factors and HRQOL. However, some studies found no significant improvement in HRQOL (Chan et al., 2005; Hawkes, Nowak, and Speare, 2003; Mendes de Leon et al., 2006; Tingström et al., 2005). From Thai studies, there were three nursing cardiac interventions enhancing HRQOL for Thai CHD patients who were not first diagnosed, and were not self-management intervention; two studies had significantly improved HRQOL (Phasuk Kewcharoenta, 2003; Nithivadee Methajan, 2001), another one found that HRQOL scores remained unchanged (Aem-Orn Saengsiri, 2003). Therefore, previous studies both Thai and western demonstrated controversial result related to HRQOL.

Moreover, the previous studies suggest that self-management intervention is the most successful for promote health outcome (Barlow et al., 2002; Newmann, Steed, and Mulligan, 2004; Norris, Engelgau, and Narayan, 2001) including support patients to live the best possible HRQOL with their chronic condition (Bodenheimer et al., 2002), particularly in CHD patients (Fernandez et al., 2009a; Yusuf et al., 2004). Self-management is widely recognized as a necessary method for maintaining and improving patients' health behavior and health status (Dongbo et al., 2003). Self-management is a learning process that emphasizes changes in behavior (Browder and Shapiro, 1985), supporting from social resource, and collaboration with health care professions (Holroyd and Creer, 1986). Changes in behavior would be associated with improvement in health status, and better HRQOL (Ferrans et al., 2005).

Self-management interventions can make a difference in terms of changes in behavior, health status, and health care utilization. One more characteristic distinguishes self-management from the traditional health promotion and patient's education programs; self-tailoring, or using self-management skills and knowledge and applying these to oneself as appropriate (Lorig, 1993).

The goal of caring first CHD patients is not only to prolong life, but also to relieve symptoms, improve function and ability to participate in everyday activity, and improve HRQOL (Benzer et al., 2003; Thompson et al., 1998). Then, the nursing role for caring these patients should include a plan to modify or manage risky health behaviors in order to bring about reducing health problems and improving HRQOL. Without essential knowledge and management skills, first diagnosed CHD patients continue to perform risky health behaviors, which may eventually lead them to serious health deterioration by developing a severe recurrent symptom of chest pain,

and myocardial infarction which will led them to readmission prior to their regular appointment (Boini et al., 2005; Chulaporn Changperk, 2001; Fox et al., 2001; Sirilak Sriprasong, 2000).

Currently, it's very necessary to develop the self-management intervention for enhancing HRQOL in first diagnosed CHD patients. This phenomenon is a critical issue for the nurse to take more active role in conducting effective strategies for those patients. The support from nurses facilitates patients to manage their health behaviors through their changing of health status. Consistently, effective self management interventions help them manage their health behaviors and health status further supports enhancing a relatively high level of HRQOL is needed.

Then, the aim of this study was to develop self management intervention that named Comprehensive Cardiac Nursing Program (CCNP) for improving HRQOL in first diagnosed CHD patients. CCNP was a multi-components nursing intervention and was developed based on the self-management model (Kanfer and Gaelick-Buys, 1991), Ornish's heart disease reversal program (Onish, 1990), and existing knowledge.

The CCNP was accompanied by a mutual of patients and nurse with supporting from family member. It provided the significant information for enhancing participant's knowledge, understanding, and management about CHD, cardiac risk factor, and risky health behaviors management. It also trained and practiced the participants for risky health behavior management including diet management, physical activities and exercise management, smoking cessation management, and stress management based on Ornish's heart disease reversal program and existing knowledge.

The reason for developing CCNP based on self-management model of Kanfer and Gaelick-Buys (1991) due to it allow the patients to identify their problems, and provide techniques to help patients make decisions from sufficient knowledge of their condition, take appropriate actions for manage their risky health behaviors, applications of the necessary skills to maintain adequate physical-psychological-social functioning, and alter their actions as they encounter changes in circumstances or disease. The effective self-management encompasses the ability to monitor one's condition and to affect the cognitive, behavioral and emotional responses necessary to maintain a satisfactory quality of life (Clark et al., 1991). The CCNP is different from others in the aspects of self management that are significant for managing risky health behaviors and accommodate health problems with improve HRQOL for first diagnosed CHD patients. As Creer (2000) and Kanfer and Gaelick-Buys (1991) revealed that improving HRQOL should use effective self- management strategies.

Developing CCNP to improve HRQOL since first diagnosed CHD is necessary for nursing's role so that patients can better respond to living with chronic disease. It is expected that patients who were received this program with usual care can increase the HRQOL than those who received only usual care. Improving HRQOL is the best way to prevent further health deterioration, reduce the incidence of subsequent myocardial infarction, decrease the need for surgical procedures, and reduce re-admission, morbidity and mortality (Boini et al., 2005; Daly et al., 2000; 2002; Fox et al., 2001). In addition, managing the changing health status of this nursing intervention is an effective therapeutic effort to improve HRQOL that represent the quality of nursing care, and the best way to decrease cost of caring this disease (Aldana et al., 2003; Berra, 2003; Michelle, 2001).

Research question

Does the comprehensive cardiac nursing program improve health related quality of life of the first diagnosed CHD patients?

Research objective

1. To develop comprehensive cardiac nursing program for improving health related quality of life in first diagnosed coronary heart disease patients.

2. To examine the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients.

- Compare the difference of health related quality of life between before and after receiving comprehensive cardiac nursing program.

- Compare the difference of health related quality of life between the experimental and control group.

Theoretical framework

HRQOL of first diagnosed CHD patients are negatively affected by chronic progressive life threatening as CHD occurrence. There is no cure for chronic disease; as a significant alternative, effective self-management which take into account adaptation to illness and its treatment is necessary (Boini et al., 2005; Holman and Lorig, 2004; Plevier et al., 2001). Then, self-management model of Kanfer and Gaelick-Buys (1991) was used as a framework for this study.

Self-management is widely recognized as a necessary method for maintaining and improving patient's health behavior and health status (Dongbo et al., 2003). It reflects the holistic care and the most applicable of essential nursing approach,

especially in people with chronic conditions. It also reflects the ultimately changes in participant's health related quality of life (Tobin et al., 1986).

Self-management aim at helping patients to maintain a wellness in their foreground perspective, and supporting patients to reduce disability, health care costs, mortality and to live the best possible health related quality of life with their chronic condition (Bodenheimer et al., 2002; Lorig et al., 2000). Self-management allows participants to make informed choices, to adopt new perspectives and generic skills that can be applied to new problems as they arise, and to practice new health behaviors. The results of changing health behaviors are associated with improvement in healthful behaviors, improvement in health status, and also resulted in better health related quality of life for the individual (Ferrans et al., 2005).

Self-management in chronic disease conditions has been defined as learning and practicing the skill necessary to changes behavior (Browder and Shapiro, 1985), particularly in collaboration with health care professions and supporting from social resource (Holroyd and Creer, 1986). The relationship between patients and health care providers are called partnerships which include active collaborative care. They share responsibility for solving problems and attaining desired outcomes. The patients set their goals about behavioral change and the professional helps the patients make informed choices. Patients identify their risky health behaviors problems and gain understanding and confidence to accomplish their new health behaviors through help from health care providers. Patients accept responsibility to manage their own conditions and are encouraged to solve their own problems with information that is provided.

Self - management for chronic illnesses such as CHD requires not only behavioral change related to reduce risk factors but also new management strategies, because various symptoms and health problems have a greater occurrence at various times and affected to many areas of life. Self-management for caring long-term health conditions of patients is a critical component of the chronic care model (Mead et al., 2009). The process of self-management model (Kanfer and Goelick-Buy, 1991) can be described into 3 processes as following;

1) Self-monitoring.

This process is essentially described as deliberately and carefully attending to his/her own behaviors. Past experience will motivate the person to change the behaviors that needs to be changed, to anticipate the outcomes of change, and to compare the behaviors with standard criteria.

2) Self-evaluation.

This stage is a discriminating response between self-monitored behaviors and the subject standard behavior in order to evaluate whether the behaviors should be maintained or discontinued. This process requires the client to continually evaluate the situation and considering the many resources available, to revise or change plan of action as needed.

3) Self- reinforcement.

After comparing his/her behaviors with the standard criteria, the person will have both positive and negative reactions which affect the expectation of the outcomes and subsequent behaviors. Negative reaction would inhibit the behaviors, whereas positive reaction would motivate for the continuation of behaviors management.

Moreover, for the successful self-management of chronic illness, Clark et al (1991) suggested that it requires individuals master three separate but related categories of activities. First, they must be sufficiently knowledgeable about their condition and its treatment to make informed decisions about care. Second, they must perform activities aimed at management of the condition. Finally, they must apply skills necessary for maintaining adequate physical-psychological-social functioning. The effective self-management encompasses ability to monitor one's condition and to affect the cognitive, behavioral and emotional responses necessary to maintain a satisfactory quality of life (Clark et al., 1991).

For this study "Comprehensive Cardiac Nursing Program" was developed based on a self management model (Kanfer and Gaelick-Buys, 1991) that provides patients with multi holistic components and was accompanied by mutual activities for participants and nurse with supporting from family member.

The family member was cooperated in learning and training process, self-monitoring, self-evaluation, and self reinforcement for manage the patients' risky health behaviors in the real life situation as supporter and assistant. The supporting from family member was defined as the environmental support aimed at promotes the achieving in his/her patients' goal in risky health behavior management (Kanfer and Goelick-Buy, 1991). Similarity to the study of Mead et al (2009) mentioned that combining social support was more effective to improve self-management for achieving the goals.

The CCNP would provide the sufficiently knowledge and practice skills that patients can perform to manage their risky health behavior by using self-monitoring, self-evaluation, and self-reinforcement process for improving their health status and

health related quality of life. The conceptual framework of this study was summarized in figure 1.

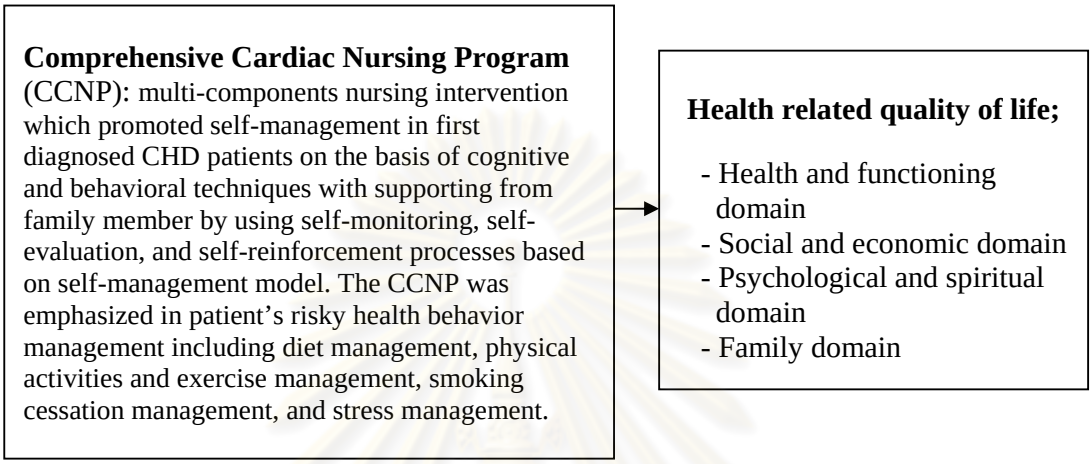

Figure 1 Conceptual framework of the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients**.**

Research hypothesis

According to Kanfer (1980) and Kanfer and Goelick-Buy (1991), self-management is a significant process of self-control and monitoring of modified behaviors that help patients learn to response or to develop the expected behaviors with reducing the severity of disease and improving health status. Self-management interventions support patients to live the best possible HRQOL with their chronic condition (Bodenheimer et al, 2002), particularly in CHD patients (Fernandez et al, 2009; Yusuf et al., 2004). Self-management is widely recognized as a necessary method for maintaining and improving patients' health behavior and health status (Dongbo et al., 2003). Self-management is a learning process that emphasizes changes in behavior (Browder and Shapiro, 1985), particularly in collaboration with health care professions and supporting from social resource (Holroyd and Creer, 1986).

Changes in behavior would be associated with changes in health status that are further associated with improvement in healthful behaviors resulting in improvements in health status. All these changes are results in better HRQOL (Ferrans et al., 2005).

For this study, Comprehensive Cardiac Nursing Program (CCNP) was multi-components nursing intervention which promoted self-management in first diagnosed coronary heart disease patients on the basis of cognitive and behavioral techniques with supporting from family member by using self-monitoring, self-evaluation, and self-reinforcement processes based on self-management model of Kanfer and Goelick-Buy (1991). The participants who participated in the CCNP would received the significant information for enhancing participant's knowledge, understanding, and management about CHD, cardiac risk factor, and risky health behaviors management. They were also trained and practiced for risky health behavior management including diet management, physical activities and exercise management, smoking cessation management, and stress management based on Ornish's heart disease reversal program (Ornish, 1990), and existing knowledge.

In addition, the family member was cooperated in learning and training process, self-monitoring, self-evaluation, and self-reinforcement for manage the patients' risky health behaviors in the real life situation as supporter and assistant. The supporting from family member was promoted the achieving in his/her patients' goal in risky health behavior management (Kanfer and Goelick-Buy, 1991). As the existing knowledge mentioned that combining social support was more effective to improve self-management for achieving the goals (Barlow et al., 2002; Mead et al., 2009).

Major objectives of risky health behaviors management intervention in patients with established CHD are to reduce cardiac risk factors, and prevent the recurrence of further coronary and other atherosclerotic events through change their risky behavior with improve their health status, to increase life expectancy, and to improve quality of life (Wood et al, 1998). Accordingly, risky health behavior related to increase cardiac risk factors are responsible for the development and acceleration of coronary atherosclerosis plaque that cause the changing of health status and health problems. When their health status and health problem were improved, all of these improved were contributed to better HRQOL.

Moreover, this intervention is not only risky behavioral changes but also provide management strategies, sufficient knowledge of the conditions and its treatment, performance of individual's ability to manage his/her condition, symptoms, treatment, risk behaviors management and applications of the necessary skills for maintaining adequate physical-psychological-social function and improving a person's perceived sense of well being that stem from life satisfaction.

Then, the study hypothesis to be explored in this study was first diagnosed CHD patients who participated in the comprehensive cardiac nursing program would have significantly higher HRQOL scores than patients who receive usual care.

Scope of the study

The researcher indicated the scope of the study as follows:

1. A randomized control trial two groups' pretest-posttest research design was conducted to develop and evaluate effects of comprehensive cardiac nursing program on health related quality of life in first diagnosed CHD patients.

2. The population of this study was first diagnosed CHD patients by electrocardiography or troponin T investigation including ST-segment elevation myocardial infarction (STEMI), Non-ST-segment elevation myocardial infarction (NSTEMI), and Unstable Angina (UA) who received medical treatment, and lack of complication to cooperate in this study. The participants in the control group received the usual care, while the participants in the experimental group received the usual care plus comprehensive cardiac nursing program during the 8 weeks periods.

3. The independent variable was the comprehensive cardiac nursing program. The dependent variable was health related quality of life including overall HRQOL and 4 domains of health and functioning, social and economic, psychological and spiritual, and family.

Operational definition

1. Comprehensive Cardiac Nursing Program (CCNP) is multi-components nursing intervention which promoted self-management in first diagnosed coronary heart disease patients on the basis of cognitive and behavioral techniques with supporting from family member by using self-monitoring, self-evaluation, and self-reinforcement processes based on self-management model of Kanfer and Goelick-Buy (1991). The CCNP was emphasized in patient's risky health behavior management including diet management, physical activities and exercise management, smoking cessation management, and stress management based on Ornish's heart disease reversal program and existing knowledge.

2. Health related quality of life (HRQOL) is defined as first diagnosed coronary heart disease patient's perceived sense of well being that stem from life satisfaction with the various aspects of life in health and functioning, social and economic,

psychological/spiritual, and family as a whole that are important to him/her. HRQOL will be measured with specific HRQOL instrument by The Quality of life Index-Cardiac version IV (Ferrans and Powers, 1985; 1998), and translated into Thai by Atchra Sukhonthasarn.

3. Usual care is the conventional health information that was given by nurse, physician, and other health care provider for caring first diagnosed CHD patients at the medical ward and out-patient department of the secondary health care setting. The usual care is also including information that nurse gives during bed site nursing care, gives leaflet about CHD and lifestyle modification, provides health education before discharge home, telephone calls after discharge from the hospital, gives information to group of patients by using pamphlet while patients wait to see the physician at in/out patients department.

4. First diagnosed CHD patients is meant that patients who were first time diagnosed with Unstable Angina (UA), Non-ST-segment elevation myocardial infarction (NSTEMI), and ST-segment elevation myocardial infarction (STEMI) by physician based on EKG or cardiac enzyme investigation at secondary health care setting.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Expected benefit

1. The study could be used as a nursing practice guideline at secondary health care setting for improving health related quality of life in first diagnosed coronary heart disease patients.

2. The result of this study could be used for nursing administration providing direction for setting policies.

3. Improving HRQOL of first diagnosed CHD patients represent the quality of nursing care and decrease cost of caring this disease.

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CHEPTER II

LITERATURE REVIEW

In order to develop the comprehensive cardiac nursing program and examine the effect of this program on health related quality of life in first diagnosed coronary heart disease patients, this chapter provides an integrative research review of empirical finding with the state of the summarization that related to the concepts of interest. The literature reviews are included as the following;

1. Coronary Heart Disease (CHD)
    - 1.1 Definition of coronary heart disease
    - 1.2 Pathophysiology of coronary heart disease
    - 1.3 Management of coronary heart disease
    - 1.4 Impacts of coronary heart disease on patients health's problems
    - 1.5 Risk factors of coronary heart disease
2. Health related quality of life (HRQOL)
    - 2.1 Definition of health related quality of life
    - 2.2 Theory of health related quality of life
    - 2.3 Measurement of health related quality of life
    - 2.4 Factors related/predicted health related quality of life
3. Self-management model
    - 3.1 Definition of self-management
    - 3.2 Theoretical underpinning self-management model
    - 3.3 Kanfer & Gaelick-Buys's self-management model
    - 3.4 Self-management intervention for improving HRQOL

4. Nursing care for enhancing HRQOL in first diagnosed CHD patients

4.1 Nursing care for first diagnosed CHD patients

4.2 Comprehensive cardiac program

4.3 Ornish's heart disease reversal program

5. Developing comprehensive cardiac nursing program for enhancing HRQOL in first diagnosed CHD patients

1. Coronary Heart Disease

Coronary heart disease is widely used previously before conclusion and defined these signs and symptoms into Acute Coronary Syndrome (ACS). The population for this study will be the patients with coronary heart disease (CHD) in the meaning of 3 types of ACS including ST-segment elevation myocardial infarction (STEMI), non-ST-segment elevation myocardial infarction (NSTEMI), and unstable angina (UA) (Alpert et al, 2000).

1.1 Definition of Acute Coronary Syndrome

Acute Coronary Syndrome (ACS) is referred to signs and symptoms compatible with acute myocardial infarction ischemia, including different subtypes of acute myocardial infarction. This term also reflects the similar pathophysiology of myocardial infarction (Bertoni et al., 2005). The diagnosis of acute myocardial infarction was defined by using the WHO criteria in the presence at least two of three criteria (Anderson, 2007; Antman, 2004);

1) Typical ischemic chest pain

2) Changes on serially obtained electrocardiographic tracings; typical finding included development of pathological Q-waves or ST-segment elevation.

3) A rise of CK-MB > 25 mg/ml or troponin T > 0.1 mg/ml

However, CK-MB is not a sensitive marker of myocardial necrosis. Therefore, application of WHO definition in clinical practice results in several patients erroneously diagnosed with non-myocardial infarction. Available for much more sensitive detection of myocardial damage is including assays for the cardiac troponins T and I. These developments formed the basis of revised definition of myocardial infarction by using the definition as codified in the ACS registry by American Heart Association, The American College of Cardiology (ACC), and European Society of Cardiology (ESC) (Anderson, 2007; Antman, 2004). Thai Heart Association was defined and classified Acute Coronary Syndrome similarly to all associations as mention previously that should be manifested a more rapid typical of biochemical markers of myocardial necrosis including (Thai Heart Association, 2002):

1) ST-segment elevation myocardial infarction (STEMI): ST-segment elevation, new or presumed new LBBB or ST-segment elevation at the J point in 2 or more contiguous leads with the cutoff points greater than or equal to 0.2 mV in leads V1, V2, or V3, or greater than or equal to 0.1 mV in other leads or Creatine Kinase-MB (CK-MB) >5 µg/L and/or troponin T ≥ .15 µg/L

2) Non-ST-segment elevation myocardial infarction (NSTEMI): Either of the following (in the absence of ST elevation), ST-segment depression or T wave abnormalities with ischemic symptoms in the presence or absence of chest discomfort and/or troponin T 0.05 to 0.14 µg/L

3) Unstable Angina (UA): Defined as angina pectoris (or equivalent type of ischemic discomfort) by troponin T <0.05 µg/L with any 1 of the 3 following features;

- Angina occurring at rest and prolonged, usually greater than 20 minutes

- New onset angina of at least CCS classification III severity (CCS; the Canadian Cardiovascular Society Classification system)

- Recent acceleration of angina reflected by an increase in severity of at least 1 CCS class to at least CCS class III.

Accordingly, grading of angina pectoris by the Canadian Cardiovascular Society Classification system was following (Thai Heart Association, 2002);

Class I: Ordinary physical activity does not cause angina, such as walking, climbing stairs. Angina (occurs) with strenuous, rapid or prolonged exertion at work or recreation.

Class II: Slight limitation of ordinary activity. Angina occurs on walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals, or in cold or in wind, or under emotional stress, or only during the few hours after awakening. Angina occurs on walking more than 2 blocks on the level and climbing more than one flight of ordinary stairs at a normal pace and in normal condition.

Class III: Marked limitations of ordinary physical activity. Angina occurs on walking one to two blocks on the level and climbing one flight of stairs in normal conditions and at a normal pace.

Class IV: Inability to carry on any physical activity without discomfort-anginal symptoms may be present at rest.

Twenty five percent of men and 38% of women will die within one year of their initial MI and about 80% of CHD mortality in people under the age of 65 occurs during their first acute presentation (Duvall and Vorchheimer, 2004). Patients with acute myocardial infarction during the first year had worse HRQOL and related to death within ten years (Westin, 2005). In addition, survivors of the acute stage of

myocardial infarction have a risk of illness and death as much as 15 times higher than the general population, and approximately two thirds fail to make a complete recovery (AHA, 2003). Moreover, the 6 months after discharge of patients surviving acute myocardial infarction is the most vulnerable time in the chronic course of disease (Ladwig et al., 1994), especially the short time within 4 weeks as a period considerable distress in which comprised of a number of emotions, over solicitousness toward the survivor (Daly et al., 2002). Then, first diagnosed CHD patients were interested and need help due to they faced with the new life threatening chronic condition that they didn't have enough knowledge and experience.

1.2 Pathophysiology of coronary heart disease

From the evidence indicated that atherosclerosis is the underlining pathologic evidence of CHD. In addition, certain risk factors linked with the development of atherosclerotic plaques (Boersma et al., 2003; Harrington, 2004). Atherosclerotic plaques of abnormal coronary blood vessels caused by the deposition of a fat containing substance forming fatty streak plaque, which lead to the development of atherosclerotic lesions within the coronary artery. Atherosclerosis is a progressive disease process of the large arteries that involves the gradual accumulation of lipids, inflammatory cells, and fibrous elements of plaques in the vessel walls. Progression of atherosclerosis is triggered and enhanced by several factors, which can cause mediating diseases or directly affect of the arterial wall that involves dietary, genetic, metabolic, hemodynamic, and other factors in its development.

The raised plasma low density lipoprotein cholesterol, decreased high density lipoprotein cholesterol, smoking, high blood pressure, and glucose concentrations were cardiac risk factors that stimulate atherosclerosis plaque via several pathways

when entry and activate of inflammatory cells into the arterial wall. The process begins decades earlier than it is clinically evident as "fatty streak". These early atherosclerotic lesions are consisting of subendothelial accumulations of cholesterol-laden macrophages, or "foam cells" first appear in the aorta in the first decade of life, in the coronaries in the second decade. The more advanced lesions which evolve from these precursors are characterized by a necrotic, lipid-rich core covered by a fibrous cap and can become clinically significant if they grow large enough to obstruct blood flow or if plaque rupture or the formation of overlying thrombosis causes myocardial infarction (Boersma et al., 2003; Rosamond, 2002).

Fissuring and disruption of atherosclerotic plaques can take place at any time during this chronic process, initiating intraluminal thrombosis. Intraluminal thrombi, superimposed on the ruptured plaque, can cause total occlusion of the epicardial coronary artery, so that the coronary blood flow is interrupted and delivery of nutrients to myocardium is blocked. This situation might be further complicated by coronary vasoconstriction and thrombi micro-embolization. If the vessel were narrow more than fifty percent from normal, the patients would show the symptoms of ischemic heart disease. The symptom in its acute phase is chest pain (Patiporn Boonyapatkul, 2000). If a coronary occlusion persists for longer than 30 minutes, irreversible damage to the myocardium. Long term occlusion results in a progressive increase of the infarct size. After about 6 hours of continuous occlusion the entire jeopardized area becomes necrotic. Loss of functional myocardium results in reduced left-ventricular function, which can affect the patient’s quality of life, and generally causes premature death (Boersma et al., 2003).

1.3 Management of coronary heart disease

The specific treatment for CHD is determined by the severity of the symptoms, the size and quantity of areas with ischemia (reduce blood flow), how well left ventricle of the heart is pumping, and other medical factors such as severity of chest pain (AHA, 2001). The main treatment of CHD is composed of medication treatment and surgical treatment as follow:

1.3.1 Medical treatment

Medical treatment of CHD clients with angina pectoris focuses on two goals, the first being relief of the acute attack and the second, prevention of further involvement of myocardium to reduce the risk of MI. The major types of medication in coronary heart disease are opiates analgesics, vasodilators, beta-adrenergic blocking agents, angiotensin-converting enzyme (ACE) inhibitors, calcium –channel blockers and antiplatelet medication that contributed to improved long term prognosis in survivors of disease (Boersma et al., 2003).

1.3.2 Surgical treatment

There are two main forms of invasive surgery to deal with blockages: angioplasty (Percutaneous Coronary Intervention: PCI) and Coronary Artery Bypass Graft (CABG).

1.3.2.1. PCI is an established and effective invasive treatment procedure by done to open a partially blocked blood vessel so that blood can flow through it more easily. This procedure involves the insertion of a thin, flexible tube through an artery in the groin or arm, which is carefully guided into the narrowed artery. Once the tube reaches the narrowed artery, a small balloon at the end of tube is inflated. The balloon may remain inflated from 20 seconds to 3 minutes. The pressure

from the inflated balloon pushes the plaque against the wall of the artery opening up the passageway to improve blood flow. Once the fat and calcium build up is compressed, a small, expandable wire tube called a stent is sometimes inserted into the artery to keep open. Coronary stents provide a mechanical framework that holds the artery wall open, preventing stenosis, or narrowing, of coronary arteries. PCI with stenting has been shown to be superior to angioplasty alone in patient outcome by keeping arteries patent for a longer period of time (Gandhi and Dawkins, 1999). Nowadays newer drug-eluting stents (DES) are traditional stents that are coated with drugs, which placed in the artery, released certain drugs over time. It has been shown that these types of stents help prevent restenosis of the artery through several different physiological mechanisms, which rely upon the suppression of tissue growth at the stent site and local modulation of the body's inflammatory and immune responses (European Society of Cardiology Science News, 2007; Windecker et al., 2008).

1.3.2.2. CABG involves taking a blood vessel from elsewhere in the body (usually the chest or leg) and using it to redirect blood flow around a severely blocked artery. Blood is redirected through the new blood vessel, bypassing the blocked artery and restoring blood flow to the affected portion of the heart muscle.

Although PCI and CABG are the effective treatment to improve HRQOL (Penroong Polkanchanakorn, 1998; Pornpimol Masnaragorn, 2001), there is still a risk of continued coronary heart disease progression and of future coronary recurrences (Lisspers et al., 2005).

Even though, the surgical treatments are effective for CHD patients. However, there are available only in the tertiary and university hospitals. The secondary health care setting of Thailand that mostly located in various provinces can

provide only medical treatment. Then, CHD patients at secondary health settings have difficulty to access to these benefits that affected to their HRQOL (Mongkol Maraprasertsak, 2006).

1.4 Impacts of coronary heart disease on patients health's problems

CHD patients described "the heart is not only viewed culturally as the body's central organ, but also as the centre of entire individual and the source of both life and living" (Fitzsimons et al., 2000). Each CHD patients could not escape a sense of an altered life, unexpected heart attack, fear of loss and premature death (Johnston et al., 1999).

CHD patients stated that they had experienced problems during the first 6 months after discharge. Despite the life will never be the same again. Several of CHD patients talked about their future with tears in their eyes and expressed grief over their lost health. Their heart was no longer healthy (Eva Bergman and Berteroe, 2001; Lukkarinen and Hentinen, 1998; Rubenach et al., 2002). They felt uncertain about what happened, what to do or what to not do, no self confidence in doing things, afraid the future, anxious, frightened and crying a lot (Jaarsma et al., 1995). Moreover, all patients felt uncertainty due to financial problems, poorly planned care and unexpected changes in the course of the disease.

First diagnosed CHD patients have various healths' problems involved in physiological, psychological, social, socioeconomic, and spiritual that accompanied the life threatening and affected to their HRQOL.

1.4.1 Impacts of CHD on physical health's problems

First diagnosed CHD patients were threatened by various health problems in chest pain, arrhythmia, dyspnea, lack of energy, less satisfaction in sex

life, high cholesterol, poor physical condition, and difficulty to performing physical activity in a variety of everyday tasks (Brink et al., 2006; Dixon et al., 2000; Westin et al., 1997). A significant change in physiological problems was mostly evident with angina (Hildingh et al., 1997). The heart function is often decreased, which means decreased functional capacity that related to have recurrent of physical symptoms especially new episode of angina, and increased cardiac event (Drory et al., 2002; Jaarsma et al., 1995; Lukkarinen, 2005). These problems have not established a stable health conditions 6 months after first time CHD (Brink et al., 2006). In addition, evidence found that CHD patients who have angina pectoris or other cardiac symptoms also report lower HRQOL (Bengtsson et al., 2001; Heller et al., 1997).

CHD patients usually have severe crushing chest pain and also suffer from others signs and symptoms, and fatal complications such as arrhythmia, congestive heart failure, acute myocardial infarction, cardiogenic shock, and so forth (Ignatavicius, Worman, and Misher, 1995). The symptoms of CHD are varies intense, oppressive chest pain to left arm or discomfort. The heart function is decreased which often represent by angina symptom. Angina is not only negative impact but also being important determinant on HRQOL (Mcgillion et al., 2004; Strauss et al., 1995). Patients who have symptoms of angina only once or twice a week, which consider having much impact on lifestyle, have significantly lower HRQOL (Brown et al., 1999; Kiebzak et al., 2002; Strauss et al., 1995). In some cases, the pain component is not always dominant, and other symptoms such as weakness, shortness of breath, syncope, sweaty, arm/back/jaw pain, indisposition, nausea and vomiting, unconscious, and poor sleep quality can occur (McSweeney, Cody, and Crane, 2001).

If the blood vessels became narrow greater than a half of their diameter, the coronary blood flow would decrease (Suraphan Sitisuk, 1996). The patients eventually experienced the following myocardial ischemia symptoms (Sirirat Ngaosomkul, 2000):

Angina is the most common initial symptom that reflected the inadequate myocardial oxygenation and local accumulation of metabolic waste products (lactate, serotonin). Patients described angina such as a “pressure”, “tightness”, or “constriction” that radiates to the shoulders and inner aspect of the arms, especially on the left side (Evert, Karlson, and Wahrborg, 1996).

Palpitation, Diaphoresis, and Nausea were automatic and conductivity occurred due to generalized sympathetic and parasympathetic stimulation.

Syncope was resulted in decreased of cardiac output. The cell and organ systems were also deprived of oxygen and nutrients. Especially, the cells of brain organ are deprived of oxygen suddenly which can cause syncope.

Fatigue was occurred because the imbalance of oxygen supplies and demands that gave rise to anaerobic metabolism with increased lactic acid. The patients described fatigue as experience of weariness, loss of power and perceived the effect of fatigue was limited to functions of daily living.

Dyspnea was occurred when heart pumping power was diminished that related to a complication from congestive heart failure.

Almost of first diagnosed CHD had experienced more than one symptom (Chulaporn Changperk, 2001). After cardiac event, two third of CHD patient had at least one remaining symptom as weakness, short breathless, chest pain continuous for a time longer one year (Stewart et al., 2000). Most CHD patients (94-

99%) reported chest pain symptom (Penque, Halm, and Smith, 1998). Some patients denied pain sensation but referred to a vague sensation, a strange feeling, pressure squeezing, severe indigestion or burning (Somchat Lohajaya and Tonpaichi, 1993). Many patients perceived discomfort, and experienced severe dyspnea. Most of discomfort by persons with angina appeared at substernal, usually occurred in the neck and radiated to various locations including the jaw, shoulder, and down the arms (Evert et al., 1996). The reason for referring to cardiac pain to different locations was the occlusion of the coronary arteries. Myocardial nerve fibers were irritated by the increased lactic acid and transmitted a pain message to the cardiac nerve and the upper thoracic posterior roots.

In addition, CHD caused decrease functional capacity of the heart, and then diminished physical ability in daily living. After the occurrence of a cardiac event some patients with CHD were not able to return to their previous work (Jariya Tantitum, 1993). Limitation in physical functioning linked clinical variables such as the number of disease vessels and the number of risk factors led to a worse general health perception that can cause significant directional influence on global HRQOL (Hofer et al., 2005).

Health status and physical functioning played a major influential role on global HRQOL (Benzer et al., 2003; Bosworth et al., 2000). Patients with more frequent and severe symptoms have more impaired HRQOL (Kang and Bahler, 2004). Moreover, physical limitation also strongly correlated with psychological problems (Gustafsson, Svanberg, and Swahn, 2006).

1.4.2 Impacts of CHD on psychological health's problems

Psychological problems are common among patients who have experienced first time of CHD. Numerous psychological problems of CHD patients have been reported to be significant predictors of morbidity, mortality and HRQOL (Dixon et al., 2000). These psychological problems are not only increasing after discharge, but also often remain over at least the first year after infarction (Bennett and Mayfield, 1998; Dixon et al., 2000; Stewart et al., 2000). Moreover, psychological problems are being risk factors for the development and process of CHD, and an acute trigger for further CHD events (Clark, 2003).

First diagnosed CHD patients have negative emotional state including hostility, fear, anxiety, and depression (Drory et al., 2002; Shen et al., 2006). This disease cause changes of emotional balance in high levels of anxiety and depression, over solicitousness, fear about a new myocardial infarction, psychosocial dependency, and worries in many issues of everyday life (Daly et al., 2000; Lukkarinen and Kyngas, 2003; Stewart et al., 2000). Many of them have no self confidence, poor self esteem, more emotional distress, and poorer general health perception (Dixon et al., 2000). CHD increased psychological distress and decreased psychological well being.

Anxiety and depression

Anxiety and depression in CHD have been conducted on patients immediately after disease occurrence and which remains for a long time in chronic course of disease (Campbell et al., 1998; Drory et al., 2002; Heller et al., 1997; Kristofferzon et al., 2005). Anxiety and depression are not only being the risk factors for onset of and relapse in CHD (Hofer et al., 2005; Rozanski, Blumenthal, and Kaplan, 1999; Shen et al., 2006), but also being the most significant factors

influencing HRQOL in first diagnosed CHD patients (Hofer et al., 2005; Lane et al., 2000; Oldridge et al., 1998; Ruo et al., 2003). Anxiety and depression are significantly associated with reduced physio-psycho and social functioning interfering 4 months later cardiac events (Riegel and Gocka, 1995; Fauerbach et al., 2005; Frasure-Smith and Lesperance, 2005) and play the best predictor as an independent adverse effect on the patients prognosis and risk of mortality within 6 months (Lim, et al., 1998). In addition, anxiety and depression are the most important roles as mediator variables in the process toward HRQOL (Bosworth et al., 2000; Lane et al., 2000; Shen et al., 2006).

Stress

CHD patients stated that stress as apart of day to day life and as a response to major' life events. They said that "stress likes an explosion in their life, everything changes, and it involved sensation of panic, worry, fright, sweats and anger". They feel had bombs dropping all over the place. They think about the future and quite a stressful person and worrier. Stress as a response to major life events that associated emotionally demanding events with chronic personal stress and the development of MI (Clark, 2003). Many patients considered stress as having a more influential role than other risk factors, such as smoking and diet. The increased levels of stress precipitate a significant infarct followed by sudden death (Greenwood et al., 1996).

Depression

Depressive symptoms are common prevalence and persistence in CHD patients, and associated with increase cardiac risk symptoms (Greenwood et al., 1996). Both syndromal and subsyndromal depressions are strongly associated with

patient reported health status affecting symptom burden and HRQOL (Bosworth et al., 2000; Shimbo et al., 2004) which increased severity of chest pain, dyspnea, and increased myocardial infarction by increased platelet reactivity, abnormal blood coagulation, inflammatory activation, endothelial dysfunction, and autonomic dysfunction (Shimbo et al., 2004). CHD patients who have severe depression failed to recovery 6 months after disease occurrence (Ladwig et al., 1994).

Anxiety

The presence of anxiety symptoms showed a weak but significant positive relationship with symptom status; the higher level of anxiety is reported more severe symptom (Bosworth et al., 2000; Corace and Endler, 2003). Symptoms of anxiety and depression after an acute myocardial infarction have been associated with re-infarction and death due to cardiac disease (Romanelli et al., 2002). Patients with continued anxiety, uncertainty and depression are less likely to return to work and tend to have higher hospital readmission rate and mortality rate (Wong and Chair, 2006).

Uncertainty

Uncertainty is a perception of control. Uncertainty regarding illness has been identified as the single greatest psychological stressor for the patient with a life-threatening illness beginning from diagnosis through living with a course of chronic disease and affected to the recovery of CHD patients (Eastwood, 2004).

Locus of control

Patients' perception of control is thought to be mediated via their impact of individual perceived control over their disease process, and high perceptions of control is less likely to experience anxiety and depression (McGillion

et al., 2004; Moser and Dracup, 1995). Self-esteem, internal control, self-efficacy, personal autonomy, and perceived control are often referred to as crucial for perception of control (Eastwood, 2004; Fauerbachet al., 2005; Hofer et al., 2005). Moser and Dracup (1995) found that feelings of perceived control are important for psychosocial recovery after a cardiac event.

Dependency

Psychosocial dependency may be a normal response of humans to stressful events such as cardiac illness, but prolonged dependency may slow recovery and interfere with adjustment. Overprotection after myocardial infarction encourages patient's dependency contrary should be facilitating psychosocial adjustment instead. Dependency at 1 month was associated with continued dependency at 4 months, indicating the need to stop the sequence early (Deaton and Namasivayam, 2004).

Hostility

Hostility at time of acute diagnosis and treatment for CHD had significant effect on heart disease threat appraisal, which had a significant effect on patient quality of life 4 weeks later (Deaton and Namasivayam, 2004; Delunas, Potempa, and Ore, 1999).

Optimism

Steele and Wade (2005) founded that two week after discharge of CHD patients has the relationship between optimism and depressive symptoms. Optimism has been identified as a predictor of better health outcomes. Lower scores of optimism and higher scores of avoidant coping style predicted lower self reported adherence to recommended risk modifications (Catherine, 2001).

Coping

Active coping had related to fewer depressive symptoms (Rene, 2005). Active and cognitive coping strategies had associated with better adaptation and recovery. Avoidant coping styles have been linked to poorer adherence to risk modification (Catherine, 2001).

Sense of coherence

CHD patients who had poor or moderate sense of coherence had lower HRQOL than the patients with strong sense of coherence (Kattainen, Merillainen, and Sintonen, 2006).

There was a strong evidence for a link between psychosocial factors that have all been contributed to the pathogenesis and expression of coronary heart disease (Greenwood et al., 1996; Gurung, 2006; Rozanski et al., 1999). Patho-physiological mechanisms underlying the relationship between these entities and CHD can be divided into behavioral mechanisms, whereby psychosocial conditions contribute to a higher frequency of adverse health behaviors, such as poor diet and smoking; and direct patho-physiological mechanisms, such as neuroendocrine and platelet activation.

Chronic psychosocial stress can lead, probably via a mechanism involving excessive sympathetic nervous system activation, to exacerbation of coronary artery atherosclerosis as well as to transient endothelial dysfunction and even necrosis. New technologies and researches demonstrate that acute stress triggers myocardial ischemia, promotes arrhythmogenesis, stimulates platelet function, and increases blood viscosity through hemoconcentration. In the presence of underlying atherosclerosis, acute stress also causes coronary vasoconstriction. Hyperresponsivity

of the sympathetic nervous system, manifested by exaggerated heart rate and blood pressure responses to psychological stimuli, is an intrinsic characteristic among some individuals. Current data link sympathetic nervous system hyperresponsivity to accelerated development of carotid atherosclerosis and to exacerbated coronary and carotid atherosclerosis (Greenwood et al., 1996; Gurung, 2006; Rozanski et al., 1999).

All psychological factors have been reported to be significant predictors of morbidity, mortality and HRQOL in CHD patients (Dixon et al., 2000). After life-threatening illness, most patients have symptoms of depression, anxiety and uncertainty (Lukkarinen and Hentinen, 1998) tend to have higher hospital readmission rate (Wong and Chair, 2006), significantly worse HRQOL (Beck et al., 2001; Lukkarinen and Hentinen, 1998), re-infarction, and death due to cardiac disease (Romanelli et al., 2002). Numerous studies indicated that psychosocial factors contribute significantly to the pathogenesis and expression of CHD (Bennett and Mayfield, 1998; Dixon et al., 2000; Lavie and Milani, 2004; Rozanski et al., 1999; Stewart et al., 2000). All psychological variables showed a high relationship with emotional QOL as part of the global HRQOL (Bosworth et al., 2000). Negative emotions are known to have detrimental effect on health outcomes in CHD patients that influencing HRQOL. Poor HRQOL not only predicted a poorer long term outcome but also predicted psychosocial dependency that affected to slow recovery and interfere with adjustment (Fauerbach et al., 2005).

1.4.3 Impacts of CHD on social health's problems

First diagnosed CHD patients often failed to return to previous work, inability to return to usual social activities (Dixon et al., 2000), failed to previous levels of sexual functioning (Skyes et al., 1999), and social isolation (Moser and

Dracup, 1995). Most CHD patients have experiences in interpersonal problems relating to friends and family, convalescence, and vocational problems (Dixon et al., 2000; Jaarsma et al., 1995).

Shen et al (2006) found that social support has been independently related to higher HRQOL. Social support plays minor, but still significant roles as mediator variables to HRQOL (Bosworth et al., 2000; Hofer et al., 2005). Social support also has been influenced on survival and adjustment to CHD after cardiac event (Greenwood et al., 1996; Shen et al., 2006). CHD patients who had low social support and higher uncertainty were more likely to have worse psychological well being (Lin et al., 2000).

CHD patients who had emotional disturbance led to isolation behavior, which decrease interpersonal relationship in social life (Dixon et al., 2000; Jaarsma et al., 1995). Witchaya Pariyawatee (1999) found that male CHD patients withdrew themselves from family activities. Similarly to female patients, they exhibited poor relationship with spouse and other family members (Fleury, Kimbrell, and Kruszewski, 1995). The CHD separated patients from their families, less likely to return to work, the future was dismal and desolate, and they lived one day at that time (Mortensen et al., 2000).

Overprotection after myocardial infarction encourages patient's dependency (Deaton and Namasivayam, 2004). CHD patients had problems of the overprotection and disrespect within the social context constrained health behavior change (Karner Goransson, and Bergdahl, 2005).

Daily life activity limitation was an obstacle to active social participation. Sexual activity was also a major problem because the patients, both

male and female were afraid of cardiac symptoms that might occur due to physical exertion during sexual intercourse. In addition, the cardiac event caused distress in patients as well as partners from the onset of disease, and remained over the whole course of recovery (Moser et al., 2005). Patient's well being was, therefore, highly linked to the well being of the partner in a close relationship. The need to modify everyday activities of CHD patients could be a ground for conflicts between patient and spouse (Karner et al., 2005). As has been emphasized already, cardiac rehabilitation should start early on and should include the partners of patients (Johnston et al., 1999).

1.4.4 Impacts of CHD on socio-economic health's problems

First diagnosed CHD patients have significant pressures of financial and material well being. They are decreased competency to work, which cause the decreased income. They cannot maintain their family status and responsibilities, as their socio-economic status cannot be maintained. CHD patients have to depend on other people while having to face more financial difficulties from being out of work. In addition, cardiac investigation procedures, which are considerably expensive, are also required. Economic problems occur in patients especially whose money is not reimbursed and with no money to pay for treatment or medicine, which it is quite expensive (Chuanpit Tumnong, 1998). They could not avoid being a burden of family. Socioeconomic problems were an indicator for psychosocial risk factors that negatively affected to decrease in HRQOL following discharge from hospital (Kristofferson et al., 2005; Skyles et al., 1999).

1.4.5 Impacts of CHD on spiritual health's problems

CHD alter values and life goals of patients. The new values discerned in their everyday life in terms of social relationship rather than money and material things (Lukkarinen, 1999). After diagnosis, CHD patients stated that life would never be the same again, they talked about their future with tears in their eyes and expressed grief over their lost health, and their heart was no longer healthy (Eva Bergman and BerteroÈ, 2001; Jaarsma et al., 1995). Spiritual distress can lead to physical and emotional distress. When patients and family faced with the crisis of illness that impeding death, they look to other for spiritual support (Chuanpit Tumnong, 1998).

Conclusion of the impacts of CHD on patients' health problems

The diagnosis of CHD causes the patients to shift, often quite unexpectedly, from the role of healthy person to the role of a patient, and to be upsetting and shocking disruption of everyday life. These things did not proceed smoothly, but precede long – term personal crisis with various problems (Lukkarinen, 1999). It's accompanied the life threatening involved in physiological, psychological, social, socioeconomic and spiritual problems that related to mirroring through dimension of HRQOL (Bengtsson et al., 2004; Boini et al., 2005; Deaton and Namasivayam, 2004; Drory et al., 1999; Evangelista, 2005; Rubenach et al., 2002; Westin et al., 1997). All of these problems have a significant inverse relation with HRQOL (Lukkarinen, 1999) that hard for patient to manage.

An overall reduction in HRQOL is affected by disease occurrence and overall life satisfaction restrictions imposed by this disease (Bengston et al., 2001; Benzer et al., 2003; Boini et al., 2005; Brink et al., 2002; Chan et al., 2005; Evangelista, 2005; Chantana Lortajakul, 2006; Pornpimol Masnaragorn, 2001;

Oldridge et al., 1998; Wong and Chair, 2006). In addition, low HRQOL appears to be a marker of increase morbidity and mortality (Eastwood et al., 2008; Fauerbach et al., 2005; Rubenach et al., 2002; Tingström et al., 2005). Then, they need help for adjustment to improve HRQOL.

1.5 Risk factors of coronary heart disease

Cardiac risk factors refer to factors that contribute to increase artheroscerosis in coronary artery. If patients had limited awareness of their personal risk, they were not prepared to deal with preventing of worse progression disease (Oliver-McNeil and Artinian, 2002). Cardiac risk factors can be divided into non modifiable risk factors and modifiable risk factors (Bertoni et al., 2005):

1.5.1 Non modifiable cardiac risk factors

Non modifiable cardiac risk factors such as age, sex, and family history cannot be changed. The risk factor for having a CHD increases as a person gets older, men younger than women, and history of CHD in family are more likely to develop a problem (Gurung, 2006). Then, non modifiable cardiac risk factors were included male, increasing age, family history of CHD (Copp, Brown, and Davis, 2006).

1.5.1.1 Gender; the studies had shown that cardiovascular disease was a leading cause of death and disability in males rather than females and morbidity from cardiovascular disease in female occurred 5 year later than male. The incidence of CHD increased substantially beyond age 45 in men and 55 in women (Chanpen Chuprapawan, 2000; Fleury et al., 1995). The proportion of a risk to be CHD patient between male and female is 4:1 because female have estrogen to prevent ischemic heart disease (Christensen and Kockrow, 2003; Sadowsky, 2001). However

after menopause, females faced two to three time greater risk of developing CHD than their prior to menopause morbidity. Postmenopausal females had a decreased estrogen level accompanied by decreased cardio-protective effects, because estrogen decreased LDL and increased HDL.

1.5.1.2 Age; persons with age more than 40 years old have a risk in developing CHD, especially male age >45 years old, and female age >55 years old (Stanley, 1999). The data from The Institute of Health Care Research Thailand (2000) found that CHD was found prevalence in the group of people aged over 30. The thickening of blood vessels in the elderly developed from the diminished elastic fiber of internal vessels couple with the accumulation of fat. Arteries are hard, low elasticity due to increased collagen and plaque that significant to atherosclerosis. All of these decrease blood flow to heart and lead to death (Christensen and Kockrow, 2003). In addition, patients age over sixty-five years always have high systolic blood pressure which increase risk to be CHD two times than elderly with normal blood pressure.

1.5.1.3 Family history; Chulaporn Changperk (2001) found that about 23% of first diagnosed CHD patients had a family history of CHD. As a result, all patients would have a 30% increase in risk factor for CHD occurring before age 60. Family history made an independent contribution to cholesterol vascular risk beyond its influenced risk factor, including blood pressure, cholesterol, body mass index, and diabetes mellitus (Black and Matassarin-Jacobs, 1993). In addition, there was a strong association between death of a biologic parent before age of fifty and death from cardiovascular cause in the adoptee whom rose apart from their biologic parents.

1.5.2 Modifiable cardiac risk factors

Modifiable cardiac risk factors are factors that can all be modified depending on a person's health behaviors. From Western and Thai literature reviews found that a number of modifiable cardiac risk factors including smoking, dyslipidemia, hypertension, diabetes mellitus, obesity, physical inactivity/sedentary lifestyle, poor dietary and alcohol consumption, stress and exaggerated responses, type A personality behavioral pattern, social support, hostility, anger and negative emotions, and social isolation have been reported (Copp et al., 2006; Hanna and Wenger, 2005; Karner et al., 2005; Linchong Pothiban, 2000; Ratja Srisuthep, 1999).

1.5.2.1 Smoking

Thai studies found that 76.5 % of patients died from acute myocardial infarction had smoking (Boonyanee Wongmaneewan et al., 2002). The risk of acute myocardial infarction for smokers was significantly 3.24 times higher than non smokers. In addition, smokers have a risk of death from CHD two to three times higher than nonsmokers (Goldenberg et al., 2003; Hathai Chitanont, 2002; Jairath, 1999). In addition, secondhand smoke or environmental tobacco smoke (ETS) is the tobacco smoke inhaled by nonsmokers who are in the presence of smoker. This passive smoking is also linked to cardiovascular disease (Christensen and Kockrow, 2003; Jamroozike, 2004; Sadowsky, 2001).

Cigarette smoking and secondhand smoke have deleterious effects on the cardiovascular system; increased plaque formation and platelet adhesives, elevated catecholamine level, decreased high density lipoprotein cholesterol (HDL), decreased serum oxygen-caring capacity, and impaired arterial vasodilatation (Hanna and Wenger, 2005; Jairath, 1999). All of these influences in

developing atherosclerosis, which can increase blood pressure, hasten the occurrence of artery obstruction, chest pain, and cardiac arrest (Christensen and Kockrow, 2003; Jamroozike, 2004; Sadowsky, 2001).

Stop smoking will reduce the risk even if the person has smoke for many years. There are short and long term benefits. Within 8 hours nicotine level will be reduce by half and within 24-48 hours carbon monoxide level will be comparable to those of a nonsmoker. The long term benefits are considerable; excess cardiovascular risk from smoking reduce by half within one year and after five years reverse to about the same level as someone who has never smoked. Furthermore, the data is promising once a person quits, for the risk of CHD decreases 50% by the first year of abstinence, and by 15 years the risk approaches that of a life-long non-smoker (Crithchley and Capwell, 2003).

1.5.2.2 Dyslipidemia

Dyslipidemia is a major cardiac risk factor that effected to the atherosclerosis (Chanpen Chuprapawan, 2000; Cunningham, 1992). Plasma level of total cholesterol, low density lipoprotein cholesterol (LDL), and triglyceride were all positively associated with incidence of CHD. For each 10 mg/dl increased in serum cholesterol, the cardiovascular-death rate increased 9% (AHA, 2001). Abnormal cholesterol levels are major risk factors for CHD and are responsible for at least 46% of all new case of CHD (Foxton, 2004). To reduce risk of being diagnosed CHD was significantly related to decrease low density lipoprotein cholesterol (LDL) and increase high-density lipoprotein cholesterol (HDL), furthermore was also decreased the risk of worse progression of disease (Foxton, 2004). Treatment of lipids has proven to reduce cardiovascular mortality in many recent randomized studies, and it is

estimated that a 10% decrease in total cholesterol levels may translate into a 30% reduction in the incidence of CHD (AHA, 2002).

To reduce risk of being diagnosed CHD was significantly related to decrease low density lipoprotein cholesterol (LDL) and increase high-density lipoprotein cholesterol (HDL), furthermore was also decreased the risk of worse progression and secondary cardiovascular events (Foxton, 2004).

1.5.2.3 Hypertension

Hypertension (defined as a systolic blood pressure greater than 140 mmHg or a diastolic pressure greater than 90 mmHg) is the most common CHD risk factor which was the most prevalence in working adult and elderly population (Chanpen Chuprapawan, 2000). Hypertension has an estimate five to six times risk being CHD patients than those with normal blood pressure. It is also a well-established risk factor for the development and progression of coronary heart disease, cerebrovascular disease, renovascular disease, and chronic heart failure (Levy et al, 1996). The majority of first diagnosed CHD had a chronic disease at least one disease (86.7%). The most common chronic disease was hypertension (33.3%), hypertension with other chronic disease (56.7%), dyslipidemia (16.7%), dyslipidemia with other chronic disease (40.0%) (Chulaporn Changperk, 2001). Previous of Thai studies found that the risk factors for coronary heart disease would be similar to those in Western countries (Aem-Orn Saengsiri, 2003; Monsin Yamsakul, 1999).

Benefits of controlling hypertension; control blood pressure had also decreased the risk of occurrence and reoccurrence of coronary heart disease and cardiac arrest (Christensen and Kockrow, 2003; Jamroozike, 2004; Sadowsky, 2001).

1.5.2.4 Diabetes Mellitus

Diabetes Mellitus or abnormal carbohydrate metabolism is a risk factor for the development and worse progression of CHD. Person who had fasting plasma glucose greater than 140 mg/dl will have two to four times risk to be CHD patients than general population. Furthermore, two-thirds of people with diabetes will die of some form of cardiovascular disease. Insulin resistance places a patient at higher risk of death and re-infarction following an initial coronary event (Cannistra, O'Malley, and Balady, 1995). Insulin resistance is associated with vascular smooth muscle proliferation, elevated plasminogen activator inhibitor activity, and a disruption of normal endothelium (Reusch, 2002). In CHD patient, insulin resistance is usually associated with syndrome X, manifested by a combination of hypertension, hyperglycemia, low HDL levels, high triglyceride levels, and clotting abnormalities.

Benefits of controlling Diabetes Mellitus; controlling diabetes mellitus is increase function of vascular muscle by enhancing normal endothelium function which related to decrease risk of being and worse progression of CHD (Cannistra et al., 1995; Reusch, 2002).

1.5.2.4 Obesity

Obesity has been identified as a significant independent predictor of cardiovascular disease. Obesity is a highly prevalent condition among patients with cardiovascular disease and a risk factors for CHD by likely mediated through its association with insulin resistance, hypertension, and hyperlipidemia (Hanna and Wenger, 2005).Visceral obesity, defined as excess intra-abdominal fat, is particularly linked to a poor cardiac-risk profile. Visceral adiposity is closely linked to

insulin resistance and hyperinsulinemia with a secondary link to hyperglycemia, hyperlipidemia, and hypertension (Reaven, 2002). In older women with coronary heart disease, the waist circumference is the best predictor of fasting insulin concentrations, plasma triglyceride levels, and HDL levels (Ades, Green, and Coello, 2003).

Benefits of controlling body weight; any amount of weight loss is beneficial. It has been shown that even a 5% weight loss reduces cardiovascular risk factors, and a 10% weight loss improves insulin resistance, control of hypertension, the lipid profile, and clotting abnormalities. A decrease in the BMI by 3.5 kg/m2 is associated with a significant reduction in hyperinsulinemia (Reusch, 2002).

1.5.2.5 Physical inactivity/Sedentary lifestyle

The National Institutes of Health (NIH) Consensus Statement (1995) defined physical activity as ‘bodily movement produced by skeletal muscles that requires energy expenditure and produces progressive health benefits’(Caspersen, Powell, and Christensen, 1985; The National Institutes of Health (NIH) Consensus Statement (1995)). While exercise was described as planned physical activity with bodily movements that were structured and repetitive performed for improving or maintaining physical fitness (NIH 1995). A physical activity is any voluntary body movement that burns calories. Exercise is a physical activity that follows a planned format. It’s done with repeated movement, with the goal of improving or keeping up one or more specific areas of fitness’ (USDHHS, 1999). Exercise contributes to our level of fitness, defined as the ability to perform daily tasks by vigor and alertness without undue fatigue, enjoy leisure time and meet unforeseen challenges.

Physical inactivity and sedentary lifestyle; passive lifestyle increases the risk of acute myocardial infarction 1.9 times higher than active lifestyle (Linchong Pothipan, 1995). Physical activity leads to increase fibrinolysis, decrease coagulability, reduce coronary vasospasm, improve hyperemic myocardial blood flow, improve insulin sensitivity and glucose tolerance, increase HDL level, especially positive affect in slowing atherosclerosis process by improved endothelium function (Williams et al., 2006). CHD mortality rate has a strong association with the prevalence of a sedentary lifestyle (Yeager et al., 1995).

Previous studies found that exercise behaviors in CHD patients were at a fair level (Ratja Srisuthep, 1999; Sirirat Ngaosomkul, 2000; Yuwaret Saiseesub, 2000). Most CHD patients rarely exercise and did not understand the usefulness of exercise. From the study of Atchara Pongkeaw (1997) found only 3% of patients who exercise checked their pulse and had information about it. A person who had low habitual level of physical activity had higher risk of morbidity and mortality from CHD. Sirilak Sriprasong (2000) also found that the level of activity after hospital discharge of patients with acute myocardial infarction performed risk exercise which caused recurrence of myocardial infarction in one to three weeks. In addition, the limitation of activities also directly influenced physical, psychological, and socioeconomic aspects of coronary heart disease patients (Nithiwadee Methajarn, 2001; Saiphon Jubjal, 1997; Sirilak Sriprasong, 2001).

Benefits of regular physical activity; many benefits of regular physical activity were including lowered blood pressure, weight loss, stress reduction, increased self-confidence, enhance cardiovascular function, and less likely to develop coronary heart disease and subsequent coronary events. The regular physical activity

is also benefits to cardiovascular by increased fibrinolysis, decreased coagulability, reduced coronary vasospasm, improved in hyperemic myocardial blood flow, improved insulin sensitivity and glucose tolerance, increased HDL level, especially positive affected in slowing atherosclerosis process by improved endothelium function (Hanna and Wenger, 2005; Williams et al., 2006). Physical activity is not only related to reduce mortality from different diseases but also increase life expectancy and improve quality of life (Thompson and Bowman, 1998). In addition, being physically active is probably beneficial for psychological health as well.

1.5.2.6 Poor dietary and alcohol consumption

There are many dietary factors that influence the incidence and progression of CHD. Food containing the highest cholesterol, saturated fat level and sodium has significantly related to increased blood pressure, which has an indirect occurrence of CHD and its complications. Diet can influence cholesterol level, blood pressure, tolerance for glucose, likelihood to be overweight, and even how blood coagulates. Alcohol effects on elevated triglyceride level in person who drinks over 300 grams of alcohol per week by had four times greater risk of CHD than nondrinker (Foxton, 2004; Jamroozike, 2004). In addition, consuming too much alcohol causes arrhythmias, coagulopathy, hypertension, cardiomegaly, dyslipidemia, and damage the cardiac muscle (Foxton, 2004; Griffin and Whitehead, 2004).

Benefits of appropriate dietary and alcohol consumption; diet can influence cholesterol level, blood pressure, tolerance for glucose, likelihood to be overweight, and blood coagulates. All of theses are risk factors for the incidence and progression of CHD. Then, appropriate dietary can decrease the risk of being CHD patients and reduce the worse progression of CHD. In addition, moderate alcohol

consumption reduces the risk of CHD by potentially increasing high density lipoprotein cholesterol and reduces thrombotic tendencies (one to two units daily for women, two to three units daily for men; a unit is defined as a half pint of beer, larger or cider or a pub measure of wine sherry or spirit) (Foxton, 2004).

1.5.2.7 Psychosocial cardiac risk factors

Stress; stress makes arteries constriction, increases blood clot speed and lipid release, increases secretion of stress hormones such as catecholamine, testosterone, and cortisol into the bloodstream that activate CHD via arterial lumen injury from high heart rate, elevate blood pressure. Stress can exacerbate symptoms in people with pre-existing heart disease and acts as a trigger for myocardial ischemia in person with type A personality (Gurung, 2006).

Type A personality; is described as a behavior pattern in which the individual was driven to achieve higher than normal level which abnormal desire for achievement, be competitive, excessive feelings of pressure and time urgency, and exhibits higher level of hostility. This behavior accelerates the constriction of coronary artery (Thompson and Bowman, 1998). In addition, the initiation of the neuro-endocrine pathways may cause secretion of stress hormones, cortisone, catecholamine, and testosterone. The stress response may promote CHD via arterial lumen injury from high heart rate, elevated blood pressure, increased platelet aggregation, and lipid release (Chulaporn Changperk, 2001).

Hostility, anger, and all negative emotions; can increase worse progression of CHD, trigger heart attack and sudden death (Gurung, 2006).

Social support; social support could influence the development of CHD by buffering the person from the effects of stress as moderator role. A variety of different types of social supports also related to CHD (Gurung, 2006).

Benefits of stress reduction and relaxation therapy; is currently encouraged as a self-administered technique for many conditions, including chronic diseases such as CHD (Asbury and Collins, 2005). The evidence from randomized, controlled trial indicated that time to ST segment depression, frequency of chest pain and quality of life all improved following the course of meditation. In addition, total coronary events (death, infarction, bypass surgery, and cardiac hospitalizations) were decreased in the relaxation training group (Dixhoorn and Duivenvoorden, 1999).

1.5.2.8 Endothelial dysfunction

Multiple cardiac risk factors have been demonstrated to be associated with endothelial dysfunction. Elevated total cholesterol and LDL-C levels, increased mental stress, hyperglycemia, and smoking have all been shown to have negative effects on coronary endothelium (Levine, Keaney, and Vita, 1995). With modification of these risk factors, normal endothelial function can be preserved.

Endothelial function, when the vascular endothelium is intact, the normal response to shear stress or acetylcholine is nitric oxide–mediated vasodilatation. The endothelium also regulates platelet activity, mediates thrombosis, and limits vascular inflammation. Endothelial dysfunction is linked to an impedance of coronary flow, in that the infusion of an endothelium releasing factor agonist (acetylcholine) vasodilates normal coronary arteries but paradoxically constricts atherosclerotic or otherwise damaged arteries. In the presence of coronary risk factors,

normal vasodilatation does not occur, and this abnormality predicts adverse coronary events (Schachinger, Britten, and Zeiher, 2000).

Exercise training in patients with established CHD improves endothelial function. After exercise, coronary artery constriction was reduced, correlating with a greater blood flow velocity. A vasodilatory response was present with endothelium-dependent acetylcholine, whereas there was no vasodilatory response with endothelium-independent nitroglycerine (Hambrecht et al, 2000).

2. Health related quality of life

The term ‘quality of life’ derived from social sciences, but in health perspective it is used in a narrower sense as a health related quality of life that focus on the effects of health, illness, and treatment on quality of life (Marguerite et al., 1996; Jurkiewicz et al., 2005). Chronic illness almost all areas of life are affected by health, and so become “health-related” (Guyatt, Feeny, and Patrick, 1993). Health related quality of life (HRQOL) is usually used to refer to quality of life specifically related to health (Testa and Nackley, 1994). Then, this study will use QOL in the term of HRQOL.

The diagnosis of CHD has major implications for individuals in terms of HRQOL (Condon and McCarthy, 2006; Oldridge et al., 1998). HRQOL is a dynamic continuing relating to many aspects of one’s life (Ferrans et al., 2005). The onset of chronic illness is a life-changing event, and a lifelong process of adapting to significant physical psychological social and environmental change (Bishop, 2005). Occurring of chronic illness is a changing of health status that disrupts an individual in term of HRQOL and leads to reduce in overall HRQOL by reducing opportunities

for satisfaction and controlling in personally important domains (Devins, 1994; Livneh, 2001).

Then, a multidimensional model of HRQOL is appropriates and provides a useful framework for assessing and understanding an individual's response to chronic illness on changing in HRQOL (Gurung, 2006). Specifically, in assessing people at the point of diagnosis and then at subsequent intervals with regard to HRQOL change over time. The individual's responds to these changes is defined as attempt to increase or restore HRQOL (Bishop, 2005). Furthermore, assessing HRQOL must determine patient responds to disease occurrence, responds to rehabilitation efforts, and address trajectories in the course of a patient's disease experience (Boersma et al., 2003).

Health related quality of life is considered to be the significant effect of coronary heart disease and its treatment as perceived by patients (Oldridge et al., 1998). The aim of caring in first diagnosed CHD patients is not only to have a long life but also to enhance the HRQOL during the living of life time.

2.1 Definition of health related quality of life (HRQOL)

Quality of life (QOL) has many definitions, which vary worldwide due to differences among cultures and depends on different models. "QOL is a perception of life satisfaction or well being or happiness of patients". All of these are used synonymously with quality of life (Fayers and Machin, 2000). QOL is a broad concept that encompasses varying dimensions based on theory from study to study for example;

Hornquist (1982) and Karlson, Berglin, and Larsson, (2000) defined QOL as "the degree of need satisfaction within the physical, psychological, social, activity, material and structural areas". In addition, Naess (1987 cited in Meeberg, 1993) and

Karlson et al (2000) emphasized that the quality of life and well being are synonyms and defined them “A person enjoys a high quality of life to the degree that person 1) is active, 2) relates well to others 3) has self-esteem and 4) a basic mood of happiness”.

Ferrans and Powers (1984) stated a definition that characterizes overall quality of life in term of life satisfaction “A person’s sense of well being that stem from satisfaction or dissatisfaction with the areas of life that are important to him/her”. Ferran and Powers’s conceptual model for QOL is composed of 4 aspects or domains which were health and functional domain, psychological and spiritual domain, social and economic domain, and family domain.

Bergner (1989) defined “QOL is health status which is a consequence from the illness and/or treatment and affected to patients to conduct activity daily living”. It is composted of 3 dimensions which were physical, psychosocial, and independent dimensions. Kutner et al (1992) suggested that “QOL is hierarchical relationships between the global construct and four major life domains of health and functioning, socioeconomic, psychological/spiritual and family”.

Roberts and Clifton (1991 cited in Mandzuk and McMillan, 2005) mentioned that QOL focused on social programs such as education and manpower, community development and housing, and health and welfare. They believe that “QOL refers to the degree of satisfaction or sense of well being people experience in a specific environment”.

Gotay et al. (1992 cited in Yarbro, Frogge, and Goodman, 2005) defined “QOL is a state of well-being that is a composite of two components: 1) the ability to perform everyday activity that reflect physical, psychological, and social well-being

and 2) patients satisfaction with the levels of functioning and the control of disease and/or treatment-related symptoms".

The American Heritage Dictionary (1992) defined QOL as a noun meaning "the degree of emotional, intellectual, or cultural satisfaction in a person's everyday life as distinct from the degree of material comfort".

Zhan (1992) defined QOL as "the degree to which a person's life experiences are satisfying, a multi-dimensional concept that cannot be completely measured by either a subjective or an objective approach". It has 4 dimensions; Life satisfaction, Self-concept, Health and functioning, and Socioeconomic factors.

Berzon, Hays, and Shumaker (1993) described QOL includes "physical, mental, psychological, and social health, as well as global perceptions of function and well-being".

Meeberg (1993) conceptualized QOL as "a multi-faceted construct that encompass the individual's behavioral and cognitive capacities, emotional well-being, and abilities requiring the performance of domestic, vocational, and social roles"

Underwood, Firmin, and Jeho (1993) described "QOL is frequently impaired and high levels of related morbidity and documented that induced subjective and objective indications of physical and psychological well being".

WHO (1993) defined QOL as "an individual's perception of his/her position of life in the context of the culture and value systems in which he/she live, as well as in relation to their objectives, expectations, standards and concerns". This definition includes 6 domains; physical health, psychological state, level of independence, social relationships, environment features, and spiritual concerns.

McSweeny and Creer (1995) defined “QOL is a multidimensional concept reflecting the overall subjective condition of the physical and mental welfare of individual, which is a consequence not only of the disease but also of the family and social conditions forming the environment of the patient”.

Westin et al (1997) described “QOL is operationally defined as a composite construct consisting of various aspects of somatic health, mental health, self esteem, degree of optimism/pessimism, and the ability to perform and enjoy everyday activities associated with work, home and family life, sexual relationships and hobbies”.

Ferrell et al (1998); Efficace and Marrone (2002); and Horton (2002) believe that spiritual well-being is also instrumental in determining QOL, and described the dimensions of personality as the mind, body and spirit and discuss the influence of these dimensions on the subjective aspects of QOL.

Lukkarinen and Hentinen (1998) defined QOL is recognized as “a concept representing individual responses to the physical, mental, and social effects of illness on daily living that influence the extent to which personal satisfaction with life circumstances can be achieved”.

Hass (1999) defined QOL from theoretical literature as “an individual’s perception, satisfaction with life, and well-being that is a subjective evaluation”.

Awad and Voruganti (2000) described the perceptions of QOL that following World War II “economic growth and improvements in living standards in people’s expectations of satisfaction, well-being, and psychological fulfillment”.

Karlson et al (2000) defined “QOL is multi-dimensional in nature and includes several aspects of the individual’s life, involves values judgments that are highly

subjective and that some of our most profound satisfactions derive from activities of daily living".

Ross and Ostrow (2001) suggested "QOL induced subjective and objective indications of physical and psychological well being, physical response, and ability to conduct normal daily activities without drug therapy, life style modification and return to work".

Pornpimol Masnaragorn (2001) suggested "QOL is strongly associated with health viewed as the ability of function to perform activities of daily living, living independently, or with minimal assistance".

Berra (2003) described QOL must be viewed within the context of a person's emotional status; physical functioning; health status; family and social functioning; emotional; financial; educational status; and their cultural and religious beliefs. "QOL is a dynamic continuum relating to all aspects of one's life".

Kang and Bahler (2004) defined QOL refers to a subjective evaluation in a social, cultural, and environmental context.

Mandzuk and McMillan (2005) described characteristics of "QOL is viewed as multi-dimensional that influenced by culture and spirituality".

Tingstrom et al (2005) defined "QOL is commonly used to mean health status, physical functioning, symptoms, psychosocial adjustments, well-being, life satisfaction, or happiness".

Kang (2006) defined QOL as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards".

Chantana Lortajakul (2006) studied the QOL of post myocardial infarction patients in Thai context that compost of 9 dimensions; symptom and complication, psychological comfort, families ties, adapted ADL, economic stability, spiritual health, social engagement, basic physical capacity, and feeling empowered.

From three studies about concept analysis of QOL found that; the critical attributes of quality of life composed of 1) a feeling of satisfaction with one' life in general 2) the mental capacity to evaluate one's own life as satisfactory or otherwise 3) an acceptable state or physical, mental, social and emotional health as determined by the individual referred to, and 4) an objective assessment by another that the person's living conditions are adequate and not life threatening (Meeberg, 1993).

Hass (1999) identified the critical attributes of quality of life that composed of 1) is an evaluation of an individual's current life circumstances 2) is multidimensional in nature 3) is values based and dynamic 4) comprises subjective and/or objective indicators, and 5) is most reliability measured by subjective indicators by persons capable of self-evaluation.

Mandzuk and Mcmillan (2005) identified the critical attributes of quality of life that composed of 1) individuals make a subjective appraisal of their own lives, 2) individuals identify their satisfaction with their lives as it pertains to the physical, psychological, and social domains of their life, and 3) objective measures may supplement people's subjective evaluations of the QOL.

All mentioned previously, QOL has many definitions, which vary worldwide due to different models. QOL is a broad complex concept and encompasses multi-varying dimensions that differ by social, cultural, perception, and experiences of individual in any time and place. All of various dimensions usually reflect

significantly to health and referred to health specifically related to QOL (Rapley, 2003). For conclusion; QOL is “individual’ perception of multi-dimensional dynamic continuum of life satisfaction with well- being relating to many aspects of one's life in physical, psychological, social, and health status in the aspect of conducting normal daily activities”.

Health related quality of life (HRQOL) is a multidimensional concept. HRQOL is a widely accepted and frequently used outcome measure in clinical trials and health services research. The definition and dimension of HRQOL may vary from study to study (Fayer and Machin 2000), for example:

King and Hick (1992) defined “HRQOL is considered to be multidimensional and incorporated in physical, psychological and social domain”. The definition of HRQOL represents the patient’s perception of the functional effect of an illness and consequent therapy on him.

Guyatt, Feeny, and Patrick (1993) defined HRQOL as “the functional effect of an illness and its consequent therapy upon a patient, as perceived by the patient”

Osoba (1994) defined “HRQOL is a multidimensional construct encompassing perceptions of both positive and negative aspects of dimensions, such as physical, emotional, social, and cognitive functions, as well as the negative aspects of somatic discomfort and others symptoms produced by a disease or its treatment”.

Bowling (1995); Karlsson et al (2000); and Roebuck, Furze, and Thompson (2001) defined “HRQOL is multidimensional in nature considering both positive and negative aspects of health that included physiological, psychological, emotion and social components”.

Cella (1995) defined “HRQOL refers to the extent to which one’s usual or expected physical, emotional, and social well-being are affected by a medical condition or its treatment”.

Ebrahim (1995) suggested HRQOL may be thought of as those aspects of self-perceived well-being that are related to or affected by the presence of disease or treatment.

Wilson and Kaplan (1995) noted that HRQOL measures include “symptoms, mental health, physical functioning, role functioning, and overall health perceptions”.

Padilla et al (1996) defined “HRQOL is a personal, evaluative statement summarizing the positivity or negativity of attributes that characterize one’s psychological, physical, social, and spiritual well being at a point of time when health, illness, and treatment conditions are relevant”.

Mortensen et al (2000) described HRQOL measure by self report information on health, symptoms, and drug consumption as well as information on functioning capacity in daily routines including social, intellectual, emotional, and financial dimensions.

Revicki et al (2000) defined “HRQOL is the subjective assessment of the impact of disease and its treatment across the physical, psychological, social, and somatic domains of functioning and well being”.

Thomson and Roebuck (2001) defined HRQOL refers to the impact that health conditions and their symptoms have on an individual’s quality of life and represents the illness and its treatment as perceived by patient.

Rubenach et al (2002) defined “HRQOL is generally defined as the extent to which perceived health, or changes in health, impact on an individual’s physical, psychological, and social functioning”.

Benzer et al (2003) defined “HRQOL consisted of at least four broad domains: physical function, psychological state, social interaction, and symptoms”.

Pirpaglia et al (2003) defined “HRQOL composed of: physical function, social function, role-physical, vitality, pain, mental health, and general health”.

Johansson et al (2004) defined “HRQOL is a multi-dimensional construct that can be assessed on the basis of four principal components: physical condition, psychological well-being, social activities and everyday activities, which include both subjective and objective components”.

Jurkiewicz et al (2005) defined “HRQOL is a multidimensional concept based on the patient's perception of his or her health and integrates not only physical functioning, but also psychological status and social dimension”. HRQOL composed of: physical functioning, physical role functioning, bodily pain, general perception of health, energy and vitality, social functioning, emotional role functioning, and mental health.

All of HRQOL definitions are concluded to be a multidimensional concept based on the patient's perception of his or her health and must be regarded to physical health status, mental health status, social health status, financial, educational, cultural, religious beliefs and overall life satisfaction (Berra, 2003; Eastwood, 2004; Guyatt et al., 1993; Jurkiewicz et al., 2005; Pirpaglia et al., 2003). HRQOL represent the patient’s perception of the functional effect of an illness and consequent of therapy on him/her. In addition, HRQOL is a dynamic continuing relating many aspects of one’s

life and refers to the impact of health conditions, their symptoms, and its treatments (Revicki et al., 2000; Thompson and Roebuck, 2001). HRQOL is also encompassing perceptions of both positive and negative aspects of health (Bowling, 1995; Karlsson et al., 2000; Padilla et al., 1996; Roebuck et al., 2001).

Although it is now accepted that HRQOL is a useful and relevant outcome measure, it has been no universal agreement on a definition that comprehensively describes the multidimensional nature of this concept. This stems from the fact that HRQOL is an individual phenomenon that means different things to different people, depending on their own circumstances, perceptions, fears, aspirations and, more importantly, on their own disease. In spite of this, several authors have tried to define this construct, and most agree that any definition must recognize the physiological, psychological, emotional, and social effects of the disease (Guyatt et al., 1993).

2.2 Measurement of health related quality of life

Although HRQOL is a broad construct, the measurement of HRQOL in patients with CHD usually follows one of two approaches: general and disease specific instruments (Fayers and Machin, 2000). The advantages of general instruments are that they address a wide variety of domains, thereby assessing both anticipated and unpredictable treatment effects, as well as adverse effects. The major limitation of these instruments is that they may not examine treatment or adverse effects in detail. Disease-specific instruments, which focus on the problems of a defined population, address this limitation. While disease-specific instruments cannot be used to compare populations with different illnesses or problems, which have an important role in elucidating areas of HRQOL impairment in patient groups of special interest (Hillers et al., 1994).

However, both general and disease specific instruments used in measuring HRQOL must be (1) valid (it is really measuring what is supposed to measure), (2) reliable (it gives the same measurement after repeated administration in stable patients), (3) sensitive (it is able to reflect clinically meaningful differences in HRQOL across the broad spectrum of the clinical conditions), and (4) responsive (it detects changes when the patients' conditions change) (Fayers and Machin, 2000).

2.1.1 General instruments

General instruments were used in general and various populations that could compared across those populations.

2.1.1.1 Medical Outcomes Study 36-item Short Form (SF-36) developed by Ware and Sherbourne (1992) to evaluate general health status that provided assessments involving generic health concepts not specific to any age, disease or treatment group. Emphasis is placed upon physical, social and emotional functioning (Fayers and Machin, 2000). The SF-36 health status survey is a standardized and validated instrument recommended by the American Association of Cardiovascular and Pulmonary Rehabilitation used for evaluating health related quality of life in patients with cardiovascular disorders. It enables the assessment of any limitation of patient's physical, psychological and social functioning. The SF-36 could be used to measure changes in health status over time.

This instrument is widely used to evaluate HRQOL across various populations. The SF-36 has proven useful in surveys of general and specific populations, comparing the relative burden of diseases. It has become the most widely used of the general health status (Boini et al., 2005; Campbell et al., 1998; Favarato et al., 2006; Jurkiewicz et al., 2005; Kang and Bahler, 2004; Mortensen et al., 2000;

Tingstrom et al., 2005;). It has been translated in more than 50 countries as part of the International Quality of Life Assessment (IQOLA) Project; nearly 4,000 publications. The SF-36 was constructed to satisfy minimum psychometric standards necessary for group comparisons. Those chosen represent the most frequently measured concepts in widely-used health surveys and those most affected by disease and treatment.

The SF-36 is a multi-purpose, short-form health survey with only 36 questions which cover 8 constructs. The constructs are physical functioning (ten items), role limitations due to physical health problems (four items), bodily pain (two items), social functioning (two items), general mental health (five items), role limitations due to emotional problems (three items), vitality and energy (four items), and general health perceptions (five items). Overall physical and mental health status derived from these eight constructs is presented as the physical component summary (PCS) and mental component summary (MCS). The questionnaire items selected also represent multiple operational indicators of health, including behavioral function and dysfunction, distress and well-being, objective reports and subjective ratings, and both favorable and unfavorable self-evaluations of general health status (Fayers and Machin, 2000).

It yields an 8-scale profile of functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index. Variable scaling for different questions includes excellent, very good, good, fair, and poor; Limited a lot, limited a little, and not limited at all; Yes/No; Not at all, slightly, moderately, quite a bit, and extremely; None, very mild, mild, moderate, severe, and very severe; All of the time,

most of the time, a good bit of the time, some of the time, a little of the time, and none of the time; and others.

2.1.1.2 Sickness Impact Profile (SIP) developed by Bergner et al. (1981) is a measure of perceived health status as measured by its impact upon behaviors. The SIP consisted of 136 items that described everyday activities, negatively worded, and representing dysfunction (Fayers and Machin, 2000).

2.1.1.3 Nottingham Health Profile (NHP) developed by Hunt, et al. (1981) consists of 2 parts 38 statements. Part I, health problems is making up six dimensions of subjective health: physical mobility, pain, sleep, energy, emotional reactions, and social isolation. Each question takes a yes/no answer that wording is simple and easily understood. Part II, 7 revealed as the area of daily living are affected by their state of health: work, home life, social life, home relationships, sex life, interest/hobbies, and holidays (Lukkarinen and Hentinen, 1997; Caine, Sharples, and Wallwork, 1999).

2.1.1.4 Euro QOl (EQ-5D) of Brooks et al. (1996) that emphasizes both simplicity and the multi-country aspects, aims to capture physical, mental and social functioning. It composed of five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression.

2.1.1.5 Schedule for Evaluation of Individual Quality of life (SEIQOL) and the Patient Generated Index (PGI) of Hickey, et al. (1996) and Ruta, et al. (1994) this procedures composed of five most important aspects of their quality of life.

2.1.1.6. WHOQOL-Bref is 26 items version of the WHOQOL-100 assessment instrument (Ohaeri, Olusina, and Al-Abassi, 2004).

2.1.2 Disease specific instruments

Disease specific instruments were used in defined population. Wiebe et al (2003) illustrated that specific instruments tend to be more responsive than generic instruments, but generic instruments still provide very useful information beyond that provided by specific instruments. The need for a disease-specific measure for patients following AMI arises because generic measures do not focus in sufficient detail on the unique problems encountered by these patients (Hillers et al., 1994). Due to coronary heart patients are living with chronic health problems, health related quality of life is influenced from their illness, disease specific instrument should be used for evaluating their HRQOL. The specific instruments clarify how HRQOL is effect by disease and illness than generic instruments.

2.1.2.1 The Quality of Life Index (QLI) – Cardiac IV Version (Ferrans and Powers, 1985) developed the Quality of Life Index to measure quality of life in terms of satisfaction with life, consisted of two parts with 70 items: the first part measures satisfaction with various aspects of life and the second part measures the importance of those same aspects. Scores are calculated in four domains which were health and functioning, social and economic, psychological/spiritual, and family (Ferrans et al., 2005).

2.1.2.2 The Seattle Angina Questionnaire (SAQ) is the most commonly used of the disease-specific instruments (Borkon et al., 2002; Spertus et al., 2004, 2005, and Zhang et al., 2005 cited in Wong and Chair, 2006). The use of SAQ allowed sensitive assessment of the impact of CHD on patients' daily living. A disease specific instrument like SAQ is able to detect changes on HRQOL of CAD patients. The SAQ contains 19 items to quantify five clinically relevant domains of

CHD including physical limitations due to symptoms of angina, angina stability, angina frequency, treatment satisfaction and disease perception (Wong and Chair, 2006).

2.1.2.3 The self-administered Mac New Heart Disease HRQOL questionnaire was assessed QOL which consist of 24 item 7 likerts scale, the score from 1-7 (poor to high) with a physical limitations scale, an emotional function scale, and a social function scale. The questionnaire also includes seven questions about symptoms (angina/chest pain=2, shortness of breath, fatigue, dizziness, aching legs, and restlessness) (Apples et al., 2006; Benzer et al., 2003; Dixon et al., 2000; Hofer et al., 2005).

2.1.2.4 Minnesota living with Heart Failure questionnaire (Guyatt, et al., 1993; Oldridge, 1997)

2.1.2.5 The Quality of life after Myocardial infarction questionnaire (Guyatt et al., 1993; Oldridge, 1997)

HRQOL of patients with CHD is usually evaluated with use of objective clinical findings: however, objective findings do not tell the whole concerning the subjective quality of life (QOL) of human individuals. Then, HRQOL can measure by self report information on health, symptoms, and drug consumption as well as information on functioning capacity in daily routines including social, intellectual, emotional, and financial dimensions (Mortensen et al, 2000).

For this study, was used The Quality of Life Index (QLI) – Cardiac Version IV (Ferrans and Powers, 1985; 1998) because the definition of HRQOL that used in this study was similarly to the concept for developing this instrument. It evaluated a

target construct that composed of health and functioning, social and economic, psychological/spiritual, and family particularly reflects to the HRQOL as a whole.

2.3 Theory of HRQOL

Health-related quality of life (HRQoL) was introduced and commonly used to narrow the focus of the effects of health, illness, and treatment on quality of life. This term excludes aspects of quality of life that are not related to health, such as cultural, political, or societal attributes. Even when we consider only health-related quality of life, we find that this term has been used to mean many different things to different people, and takes on different meanings according to the area. The examples were common used in the health area such as health status, psychosocial adjustment, symptoms, physical functioning, well-being, life satisfaction, and happiness. The differences in definitions and instruments can lead to profound differences in outcomes for research, and clinical practice. Then, this study used the QOL definition of Ferrans and Powers (1985) in the meaning of health related quality of life.

The Ferrans and Powers conceptual model of quality of life was developed based on the adoption of an individualistic ideology, which recognizes that quality of life depends on the unique experience of life for each person. Individuals are the only proper judge of their quality of life, because people differ in what they value. Consistent with this ideology, quality of life was defined in terms of satisfaction with the aspects of life that are important to the individual. Satisfaction implies a cognitive experience resulting from judgment of life’s conditions. Then, quality of life is "a person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her" (Ferrans and Powers, 1985).

The conceptualizing quality of life in terms of satisfaction was most congruent with the individualistic approach. The individualistic approach recognizes that different people value different things. Because of this, there is no single quality of life for all people with the same life condition. Quality of life in its essence is uniquely personal. It conveys the idea of a value judgment about a person's life. People use their own internal standards for what they consider a desirable or undesirable quality of life. When determining the quality of life of an individual, the person's own judgment is the only one that is ethically justifiable. If one's values are not to be imposed on another, there is no substitute for personal appraisals of well-being.

This model was developed by using qualitative methodology, extensive literatures review, and factor analysis of quantitative methodology. The factor analysis of patient data was used to cluster related elements into domains of quality of life. The resulting model identifies four domains of quality of life: health and functioning, psychological/spiritual, social and economic, and family.

Health and functioning domain were composed of usefulness to others, physical independence, ability to meet family responsibilities, own health, pain, energy (fatigue), stress or worries, control over own life, leisure time activities, potential for a happy old age/retirement, ability to travel on vacations, potential for a long life, sex life, and health care. Social and economic domain were composed of standard of living, financial independence, home (house, apartment), neighborhood, job/unemployment, friends, emotional support from others, and education. Psychological and spiritual domain was composed of satisfaction with life, happiness in general, satisfaction with self, achievement of personal goals, peace of mind,

personal appearance, and faith in God. Family domain was composed of family happiness, children, relationship with spouse, and family health.

The personal evaluations provide an understanding of the impact of illness from the viewpoint of the patient, which were different from health status and physical functioning. Subjective well-being does not represent a single construct; it includes pleasant and unpleasant affect, global judgments of life satisfaction, and satisfaction with individual domains of life. Ferrans and Powers's model, which links satisfaction and QOL, has a strong conceptual basis, clearly distinguishes between the domains, and provides a solid example of the connection between theory and research.

2.4 Factors related/predicted health related quality of life

It is well known that multiples aspects of one's HRQOL can be affected by the development of CHD. Improving HRQOL should be manipulated to these factors with early intervention (Oldridge et al., 1998). From evidence found that various factors related to and/or predicted HRQOL in first diagnosed CHD patients as following:

Patients' background factors: Age, gender, income, and education are effected to HRQOL in CHD patients (Beck et al., 2001; Bengtsson et al., 2001; Chan et al., 2005; Christian et al., 2007; Heller et al., 1997; Lukkarinen, 2005; Oldridge et al., 1998). In addition marital status, employment status, working-aged persons (34–65 yr), persons on disability pension, poor financial status, history of traumatic life experiences, and smokers are also influenced to HRQOL (Chan et al. 2005; Lukkarinen, 2005). Age and gender as individual characteristics showed a constant effect on symptom status and physical functioning (Gottlieb et al., 2004; Mallik et al.,

2005). Male and female were significant differences in their HRQOL scores (Chan et al. 2005). Female patients and older patients appeared to perceive a lower level of ability to perform physical tasks (Hofer et al., 2005). Young women were poorer HRQOL than young men (Lukkarinen and Hentinen, 1998). Male and female CHD patients in the youngest age group had the poorest HRQOL (Lukkarinen, 2005). Marital status indicated significant differences in the HRQOL scores. Participants who were married had significantly higher physical functioning scores than those who were widowed and divorced (Chan et al. 2005). As individual characteristics showed a constant effect on symptom status and physical functioning which were significant construct of HRQOL (Hofer et al., 2005; Lukkarinen, 2005).

Baseline HRQOL; baseline HRQOL directly and independently affected to HRQOL outcomes (Beck et al., 2001; Christian et al., 2007; Shen et al., 2006).

Symptoms, physical status and physical functioning in the acute phase of treatment have a greater effected on HRQOL than individual factors. Symptom status is a key predictor, and a major influential role on global HRQOL (Bengtsson et al., 2001; Brink et al., 2002; 2005; Christian et al., 2007; Hofer et al., 2005; Oldridge et al., 1998). Limitation in physical functioning led to a worse general health perception, and reduced global HRQOL (Hofer et al., 2005).

Angina was an important determinant of HRQOL. Improved HRQOL scores were associated with improved angina severity and frequency (Bengtsson et al., 2001; Benzer et al., 2003; Heller et al., 1997; Oldridge et al., 1998). In addition, the severity of CHD affected to physical and social function aspects of HRQOL (Siriporn Leingkobkij, 1999).

Numbers of risk factors affected to global HRQOL (Heller et al., 1997; Jamieson et al., 2002, and Oldridge et al., 1998) through the mediating effected of experience actual symptoms, physical functioning, and general health perception (Benzer et al., 2003; Hofer et al., 2005).

Anxiety and depression symptoms have major effects on global HRQOL in CHD patients and play the most important roles as mediator variables in the process toward HRQOL (Beck, 2001; 2002; Christian et al., 2007; Fauerbach et al., 2005; Hofer et al., 2005; Mayou et al., 2000; Shen et al., 2006). Depression was the best predictor of HRQOL, has significantly influenced the emotional aspect of HRQOL, and has a major considerable effect on physical functioning and general health perception, exerting a major indirect effect on global HRQOL (Hofer et al., 2005; Jamieson et al., 2002).

Coping strategies in minimization (positively) and fatalism (negatively) were associated with HRQOL and maladaptive coping also contributed to baseline and follow up HRQOL (Benzer et al., 2003; Brink et al., 2002; Shen et al., 2006)

Increase perception of uncertainty was related to decrease perception of health status and HRQOL. Uncertainty was a significant negative relationship with psychological well being. Locus of control; has been shown to have a direct effect on general health perception and global HRQOL. Locus of control is playing minor, but still significant roles as mediator variables to HRQOL (Hofer et al., 2005).

Hostility directly and independently predicted HRQOL outcome. Hostility, social support, and maladaptive coping are also contributed to baseline and follow up HRQOL by their associations with depression (Drory et al., 1999; Shen et al., 2006).

There was a correlation between HRQOL and sense of coherence. Patients who had poor or moderate sense of coherence have lower HRQOL than the patients with strong sense of coherence (Drory et al., 1999; Shen et al., 2006).

All psychological factors showed a high relationship with emotional HRQOL as part of the global health. Psychological factors have also been reported to be significant predictors of morbidity, mortality and HRQOL in cardiac patients (Dixon et al., 2000).

Social support was found to have an influence on survival and adjustment to CHD after cardiac event (Shen et al., 2006). Patient's well being is highly linked to the well being of the partner in a close relationship. Social support not only played an important role at the onset of and the recovery process of CHD, but also still significant roles as mediator variables to HRQOL (Hofer et al., 2005). Increased social support is associated with improved HRQOL after being CHD patients (Shen et al., 2006).

The low socioeconomic provided the lowest mean scores of HRQOL. Poor financial situation was correlated with low HRQOL on emotional reactions and social isolation in both sex groups (Lukkarinen, 2005; Lukkarinen and Hentinen, 1998).

Invasive treatments were significant difference in HRQOL after PCI and CABG. Patients who were treated invasively have better HRQOL scores in physical variable when compared with conservative patients (Graham et al., 2006).

Patients admitted at sites with angiography were slightly superior HRQOL than those patients at sites without angiography in the early period within six months after AMI (Pilote et al., 2002).

Smoking was correlated with low HRQOL on emotional reactions and social isolation in both sex groups (Heller et al., 1997; Jamieson et al., 2002; Lukkarinen and Hentinen, 1998; Oldridge et al., 1998).

Exercise was associated with decrease CHD risk factors and increase HRQOL (Deaton and Namasivayam, 2004; Heller et al., 1997; Jamieson et al., 2002; Jeng and Braum, 1997).

Patients who had comorbidities were reported poorer HRQOL than did patients without comorbidities (Christian et al., 2007; Jamieson et al., 2002).

Others factors such as acute onset of illness at young age, unexpected termination of career, financial problems, concern for one's family, and lack of emotional support have been reported to be significant predictors and related to poor psychosocial HRQOL (Lukkarinen, 2004).

In conclusion; smoking, chronic disease, exercise, physical status and physical functioning, anxiety, depression and negative emotions, and social support are not only being factors predicted HRQOL, but also being cardiac risk factors. In addition, health problems are being factors predicted HRQOL that occurred when developed cardiac risk factors. The other factors related to HRQOL but could not manipulate such as patients' background, baseline HRQOL, and low socioeconomic that similarly to non modifiable cardiac risk factors.

Moreover, CHD treatment for the patients at secondary health care setting of Thailand cannot provide the angiography or invasive treatments that effected to the patients' HRQOL. Then, improving HRQOL should be manipulated in significant factors predicted HRQOL as mention previously.

3. Self-management model

3.1 Definition of self-management

The concept of self-management has been developed by experts in various disciplines, including nurses, physicians, physiotherapists, and psychologists. While this term is commonly used, there is no universal definition of self-management in the health arena. The self-management concept has been broadly used in chronic illness. The review of related literature found several definitions of self-management as follows:

Tobin et al (1986) wrote that self-management is a protective action or performance of therapeutic activities for health care that aims to promote self- control. In their definition, the final goal of self-management is to reduce morbidity and mortality rate, and to promote quality of life.

Clark et al (1991) defined self-management as the daily activities an individual must engage in to control or decrease the impact of disease on health status, which includes contending with the psychosocial difficulties caused or intensified by the disorder.

Kanfer and Gaelick-Buys (1991) defined self-management as the process of self-control and monitoring of change behavior on the basis of cognitive process and learning from past experience. The obtained information is then evaluated to make decision in response or to induce the desired behavior.

Bartholomew et al (1993) described self-management as the behaviors that patients and family members perform to lessen the impact of chronic illness. They also explain that self-management is different from strict compliance with medical regimens in that it includes the complex cognitive-behavioral skills of self-monitoring, decision making, and communicating about symptoms and treatment

regiments.

Lorig (1993) defined self-management as learning and practicing the skills necessary to carry on an active and emotionally satisfying life in the face of a chronic condition.

Nakagawa-Kogan (1996) described self-management as a treatment that combines biological, psychological and social intervention techniques, with a goal of maximal functioning of regulatory processes.

von Korff et al (1997) defined self-management based on a comprehensive literature review as engaging in activities that protect and promote health, monitoring and managing systems and signs of illness, managing the impact of illness on functioning, emotions and interpersonal relationships and adhering to treatment regimens.

Lam et al (1999) defined self-management as the process involves patients increasingly taking a more active role in controlling and managing their illness.

Creer (2000) described self-management as a procedure where patients change some aspects of their own behaviors. Successful mastery and performance of self-management strategies results in changes in the mortality and morbidity indices of the disease, improvement in the quality of life of patients and families, and development of self-efficacy in that they could contribute to the management of their disorder. They became partners with their healthcare providers in controlling the chronic disease or disorder.

Edworthy (2000) wrote that self-management is the process in which the patient accepts and take responsibility for behavior modification with knowledge about the disease and treatment. The process is developed along with a good

relationship between the patient and the health care team.

Kennedy and Rogers (2001) referred to self-management as a range of activities undertaken by individuals or others in their social network aimed at managing illness or promoting maximum health potential.

Lorig et al (2001) defined self-management as strategies that involve responsibility for and making decisions about when to use health care providers, practicing appropriate health behaviors, using a problem solving approach to make decisions, and appropriately using family, friends, and community resource as necessary.

Barlow et al (2002) defined self-management as the individual's ability to manage the symptoms, treatment, physical and psychological consequences and lifestyle change inherent in living with chronic condition. Barlow further states that for self management to be effective, it needs to encompass the "ability to monitor one's condition and to affect the cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life".

Bodenheimer et al (2002) proposed that self-management is most important for best living with chronic illness.

Glasgow et al (2002) stated that self-management is a specific feature of chronic illness management. However, it is frequently overlooked or insufficiently acknowledged because it involved certain capability that needs to be actually applied into practice.

Supaporn Duangpaeng (2002) stated that self-management is one of the learning processes in which individuals will learn about their illness and manage them from their accumulated experience. Self-management is the combination of

individuals' cognitive and behavioral skills in order to develop expertise in managing their illness.

Dorsey and Murdaugh (2003) wrote that self-management is a combination of therapeutic behavior and practice to seek supportive resources for the improvement of health status and quality of life.

Bourbeau, Nault, and Dangtan (2004) defined self-management as a set of skilled behaviors and various tasks that a person carried out for management of their condition.

Holman and Lorig (2004) defined self-management as an individual's ability to live with chronic illness. That ability involves self-esteem in combination with medical management, role management, and emotional management concerning the illness.

According to the above stated definitions, self management was described as activities, abilities, skills, behaviors, procedures, strategies, and processes that patient accepts and takes responsibility of active role to manage and control the effect of disease on health status. It also described as the process of self-control monitoring of change behaviors on the basis of cognitive process and learning about their illness and manage them from their accumulated experience by using the cognitive and behavioral skills; practicing appropriate health behaviors; appropriately using family, friends, and community resource as necessary; the procedures where patients change some aspects of their own behaviors for controlling and managing their illness with a good relationship between the patient and the health care team.

The collaboration between patient and health care provider is characterized as a partner with supporting from family and social resources. All of these activities of

self-management aimed at control or decrease the impact of disease on health status, monitor and manage their illness, induce the desired behavior, promote self-control and maximum health, reduce morbidity and mortality rate, improve health status, and promote health related quality of life.

3.2 Theoretical underpinning self-management model

Self-management is an accurate assessment of one's own knowledge, skill, and abilities; well defined and realistic personal goals, monitoring progress toward goal attainment and being motivated through goal achievement, exhibiting self-control and responding to feed back. It is interpreted as the day to day tasks an individual must undertake to 1) control or reduce the impact of disease on physical health status; 2) cope with the psychosocial problems generated by chronic disease; and 3) manage daily living according to their financial and social conditions (Barlow et al., 2002). Self-management enables a person to make informed choices; to adapt new perspectives and generic skills that can be applied to new problems as they arises; to practice new health behaviors; and to maintain or regain emotional stability (Lorig and Holman, 1993).

There are two theoretical frameworks underlying the self-management concept: self-control and self-regulation (Creer, 2000; Nakagawa-Kogan, 1996).

3.2.1 Self-control is the concept that postulates that personal control, a locus of control (LOC), is either internal or external. LOC is described as a general principle that a person's attempt to control their personal environment is influenced by internal or external factors. Control is generally defined as "the perceived ability to significantly alter events". Perceived control is defined as "the belief that one has at one's disposal a response that can influence the aversiveness of an event".

In addition, Kanfer and Gaelick-Buys (1991) use the term self-control for a person's actions in a specific situation, rather than as a personality trait. Moreover, they describe self-control as the probability behavior of the response to a situation. For example, a person who was in self-management training acquired self-control skills in the early period of the training program. At the moment of initiating self-control skills, the person was not under direct environmental control even though their success in perception of self-control related to the consequences of support by the social environment. Self-control is a cornerstone in the goal orientation of self-management training. The indicator of success of self-management training is a restoration of self-control; therefore self-control is clearly a matter of central focus in the self-management concept (Creer, 2000; Nakagawa-Kogan, 1996).

Having knowledge about self-management cannot guarantee that self-management strategies will be used appropriately. Patients must have self-control that is, the belief in their capability to perform these strategies to reach the pretest goals (Creer and Holroyd, 1997). Patients who perceive themselves as lacking the capability to acquire self-management skills may be less persistent, more prone to frustration, and tend to be non compliant with treatment recommendations. Hence, some patients might demonstrate adequate understanding of a particular treatment rationale, but be non-compliant due to their perceived inability to produce the behavior necessary to follow treatment recommendations (Shutty, Cundiff, and DeGood, 1992).

3.2.2 The second philosophical basis of the self-management concept is the self-regulation model. It addresses adaptive and maladaptive states. In maladaptive states, persons need the necessary self-regulatory strategies to achieve adaptive states. Therefore the major goal of these persons is adaptation. The three aspects of adaptive systems that

persons employ as a means to coping with maladaptive states include learning, regulation of arousal, and maintenance of an organized conceptual system. Regulation implies maintaining a bodily homeostatic state, whereas dysregulation is the breakdown of this homeostatic state. If illness is dysregulation of health then; self-regulation is a logical method of achieving health.

Self-regulation is the concept of mind-body interface (Baumeister, Heatherton, and Tice, 1994; Nakagawa-Kogan, 19996). This term refers to self-generated processes that are planned and cyclically adapted in an attempt to control personal, behavioral, and environment factors (Clark et al., 1991; Zimmerman, 2000). Self-regulation is also defined by Maes and Karoly (2005) as a goal-guidance process aimed at the attainment and maintenance of personal goals. The self-regulation process requires self-observation, self-judgment, and self-reaction. Self-regulatory processes encourage individuals to learn the strategies to manage their disease (Clark and Zimmerman, 1990).

Self-regulation and self-management concepts focus on patient's goals, but the two concepts are different (Creer, 2000). According to Sulzer-Azaroff and Mayer (1991), self-regulation implies that people follow goals which are pretested by them. However, self-management connotes that individuals follow goals which are mutually set by themselves, caregivers, and healthcare providers (Sulzer-Azaroff and Mayer, 1991). Researchers working with chronically ill patients at present accept that the terms point to the same goal to perform self-management strategies to control symptoms through changing the patients' thoughts, feelings, and actions (Creer, 2000).

3.3 Kanfer & Gaelick-Buys's self-management model

Self-management is widely recognized as a necessary method for maintaining and improving patient's health behavior and health status (Dongbo et al., 2003). It is an essential nursing approach, especially in people with chronic conditions. Self-management in chronic disease conditions has been defined as learning and practicing the skill necessary to carry on an active and emotionally satisfying life (Lorig, 1993). Self-management implies monitoring and managing symptoms, adhering to treatment regimens, keeping a healthy lifestyle, and managing the impact of the illness on daily functioning, emotions, and social relationship in chronic illness (Schreurs et al., 2003).

There were many self-management theorists and models. Kanfer and Goelick-Buy's self-management model is widely accepted in current nursing practice. It has been developed to promote self-management among patients with cognitive and behavioral techniques. Patients who have been trained with a self-management program demonstrate changes in physical and cognitive, and they develop cognitive and emotional behaviors that help them in improving self-management. For the reason as mentioned previously, researcher used Kanfer and Goelick-Buy's self-management model as a framework for this study.

According to Kanfer and Goelick-Buy (1991), self-management is a process of self-control and monitoring of modified behavior before evaluating the obtained information and making decision to response or to develop the expected behavior. Kanfer (1980) and Kanfer and Goelick-Buy (1991) introduced the concept of self-management to enhance understanding about mental process in the development of self-control. This concept was based on the belief that each person has potential for seeking help and making effort in changing problematic situations with self-

management. As a result, that person will learn new behavior within the boundary of self-control.

Kanfer (1980) and Kanfer and Goelick-Buy (1991) proposed that self-management is the process of self-control that requires attentive monitoring of one's behavioral changes, based on information from the cognitive process and learning from past experience. The obtained information is applied to self-appraisal of and decision-making about the response or the behavior that could lead to expected outcomes. Self-management is a significant process that helps patients learn to modify their behaviors in response to environmental stimulation and in reducing the severity of symptoms. Inaccurate self-appraisal will lead to inappropriate decisions about responsive behaviors, resulting in ineffective self-management or symptom control. Nevertheless, provision of support may help a person to conduct appropriate behavior and achieve the expected outcomes. As a result, the person will continue to behave in that manner and have increased self-control.

Self-management is a preventive action or any therapeutic activities for health care (Tobin et al., 1986). The final target of self-management is to decrease the morbidity and mortality rate, and improve the quality of life (Tobin et al., 1986). According to Kanfer and Goelick-Buy (1991) the significant in self-management training composed of three processes namely self-monitoring or self-observation, self-evaluation, and self- reinforcement.

3.3.1 Self-monitoring that involves deliberately attending to one's own behavior. Self-monitoring was initially proposed as an operation that parallels the measurement of behavior in situations where a client is under the continuous observation of a therapist or an experiment. Self-monitoring is independently assessed

by an observer, the valence of the target behavior, reinforcement for accurate self-monitoring, and the nature of the instructions is among the variables that affects self-monitoring accuracy. Changes in the target behavior can result when the self-monitoring task triggers the self-regulation process.

The finding of favorable behavior change can result when another person monitors the target behavior. External monitoring is effective if obtrusive feedback is given to the person, thereby disrupting ongoing automatic process. Self-monitoring does not lead to favorable behavior change unless other conditions of self-regulation are met. Change does not occur if the person lacks standards for a given behavior or if there is no discrepancy between these standards and the monitored behavior. Reactivity is influenced by the causal attributions the person makes about the behavior and by the important he or she assigns to the behavior. Self-monitoring tasks that emphasize the negative effects of a target behavior can also increase reactivity. The conquered urge can also elicit feelings of self-satisfaction, introducing a reinforcement component to this technique.

For establishing self-monitoring in individual programs, both client and health care provider should clearly specify the class of behaviors to be observed and should discuss examples to illustrate the limits of the class. If the goals of self-monitoring are to foster behavior change, selection of time periods would invokes consideration of the intervals in which change most easily occurs. The health care provider should discuss with the client the recording method. Care must be taken to select a recording instrument that is always available where and when the behavior is likely to occur. The recording instrument should be simple, unobtrusive, and convenient. The health care provider should role-play and rehearse the entire self-

monitoring sequence with the client. The health care provider should also demonstrate the graphing of a set of frequency recording or time intervals for visual inspection.

Self-monitoring assignments should be reviewed during the interviews following the session in which they were assigned. Self-monitoring is a useful component of a total self-management program. It does not always provide a sufficiently reliable assessment technique, but it can serve as an important program component and motivation device. When self-monitoring is employed as an agent of behavior change, it is important to add additional techniques such as contracting, self-reinforcement, and stimulus control and to insure that the self-evaluative and self-reinforcement stages occur.

The additional techniques of self-monitoring;

3.1.1.1 A therapeutic contract is a written statement that outlines specific actions that the client has agreed to execute and establishes consequences for fulfillment and non fulfillment of the agreement. Contracts can be used to help the client initiate specific actions, establish clear-cut criteria for achievement, and provide a mechanism for clarifying the consequences of engaging in the behavior.

3.1.1.2 Environmental stimulus control; self-management techniques have probably made repeated previous attempts to alter his or her behavior including modification of the environment. Failure might have been due to lack of environmental support, lack of knowledge of specific behavior change methods, or lack of sufficient incentives for trying to change. Stimulus control procedures are including repeated self-instructions that emphasize long-rang aversive consequences of the behavior, statements about the positive aspects of tolerating an unpleasant

situation or resisting a temptation, self-rewarding statements about one's willpower, or similar verbal cues can serve as stimuli that exert powerful control over subsequent action. Stimulus control techniques involve manipulations of the physical environment, rearrangement of the social environment, and self-generation of controlling stimuli and controlling responses.

The self-regulation model describes events at a time when self-directed action is needed. The precursors to self-directed action begin much earlier. Kanfer and Hagerman (1981) have emphasized the importance of attribution process at two stages of the model. First, to begin self-regulation the person must be engaged in goal directed behavior. He or she must also view the requisite behavior as being under his or her control. The behavior is also evaluated with respect to its relevance to the individual's short and long term goals. Secondly, in evaluating the cause of success or failure to reach the aspired criterion, the person can attribute the cause of a discrepancy to some aspect of self or to some external factor.

As the goal is formulated more clearly, the person begins to examine, usually by imagery or thoughts, some possible strategies and pathways toward the desired goal that can call anticipatory self-regulation. Anticipatory self-regulation is useful to invoke specific emotions or moods that can help mobilize a person for action.

The feelings of pride and confidence resulting from imagining successful assertive behavior can help to energize action that transform the imaginary scene into reality. These "thought experiment" can shape realistic goals, reduce anxiety, enhance motivation, deepen commitment to act toward the goal, and increase readiness to act.

Once a decision has been made to work toward a certain goal, the person shifts attention from the earlier predominantly cognitive-evaluative activity to the task of translating the decision into action. During this stage, the client needs to confront reality. He or she must enact strategies, monitor and correct the behavior, develop rules to facilitate generalization, and finally continue the new behavior to maintain the desire goal state.

During initial sessions, the main task may consist in establishing the therapeutic relationship and converting a vague intention for change into a clear and deeply committed decision. In this stage of anticipatory self-regulation, problem solving activity, role play, and tasks that make the therapeutic goals more attractive are often used. Goal and value clarification technique help the client specify particular goals and increase motivation for achieving them. The goal and value clarification procedure is designed to help the client shift perspectives from current concerns to long-term goals.

After the client establishes major goals, the client should focus of treatment shifts to consideration of sub goals and specific change strategies. The client should be monitor and increase the activity level, decrease self-critical thoughts, practicing assertive behaviors, and enhance sensory awareness of pleasurable experiences.

Once a firm commitment has been made, the program becomes more heavily action oriented. There are many specific techniques that can insure that the person does not recycle to reevaluating his or her commitment and that the firm decision is protected from alternatives at this stage. For example, seek opportunities to execute planned behavior in their everyday life, attend to factors that improve

performance, boost self-confidence and familiarity with new behaviors, and anticipate how to cope with obstacles that may be encountered.

In this section, the systematic attention needs to be paid to the development of goals and maintenance of their attractiveness throughout therapy. A therapeutic alliance and utilization of various cognitive and behavioral techniques in sessions are important to lay the ground work, continuous client efforts to apply the new gained knowledge and skills in everyday life are essential. The development of goals and channeling motivations towards them is not only a cognitive enterprise. Feelings, moods, and emotions also affect client activities, either to support or interfere with goal-directed action.

Self-management methods rely heavily on tasks and assignments to serve the dual purpose of enhancing client motivation and structuring the change program. Homework assignments play a pivotal role in most treatment programs. Assignment of particular tasks has long been used as an adjunct therapeutic technique and takes on a central role. There are four steps to follow whenever a client is asked to complete a task or assignment:

- Information that involve didactic instruction about particular technique or discussion of how the technique can be tailored to fit the client's daily routine.

- Anticipatory practice or prehearsal is an application of anticipatory self-regulation to a specific situation. The client imagines and practices the assigned task within the safety of the therapy environment.

- Execution in natural settings, and

- In reviewing a task, the health care provider should also promote the client's sense of self-efficacy. Inclusion of all four steps increase the probability of success and maximizes the learning potential of the experience.

3.1.2 Self-evaluating consists of a comparison between the information obtained from self-monitoring and the person's standard for the given behavior. The clients will judges his or her own behaviors compared with performance criteria or standards that influenced by social values and personal experience. It involves a comparison between what one is doing and what one ought to be doing. Self-evaluation based on inappropriate or insufficient self-monitoring or on a vague and unrealistic standard interferes with effective self-regulatory behavior.

3.1.3 Self-reinforcement, the person reacts cognitively and emotionally to the results of the self-evaluation. These reactions have both feedback effects, affecting the strength of the preceding behavior, and they have feed forward effects, influencing the client's expectations and behavior on future occasion.

3.1.3.1 Positive self-reinforcement, or self-reward, is most commonly used in self-management programs and has been the focus of most research. Aversive self-reinforcement delivered in from of self-criticism, self-punishment, or withholding of positive self-reinforcement. Positive self-administered reinforcement encompasses two different operations which were a) approaching or consuming a material reinforce that is freely available in the person's environment or b) delivery of contingent verbal-symbolic self-reinforcement such as self-praise for a complex task.

- Selection of appropriate reinforcers. It is desirable to discuss and negotiate individual reinforcers, asking the client about his or her current

practices of self-reward, both symptomatic and material; inquiring about luxury items that the client would like to acquire; and obtaining verbal statements that would express self-satisfaction frequently yield suggestions for appropriate self-reward. Novel material self-reinforcement can be added as a special incentive for a prolong program. Verbal-symbolic reinforces include positive self-statements that are employed in self-praise; reaffirmation of one's adequately, self-worth or competence; congratulating oneself on physical appearance, physical strength, social attractiveness, interpersonal skill, or any other appropriate content. If a complex and long-range program is designed, several reinforcement stimuli should be equated for approximate value.

- Definition of specific response-reinforcement contingencies. The client is encouraged to list variations within the target response class and to indicate the precise conditions and methods for delivery of self-reinforcement.

- Practice of procedures. After selecting appropriate reinforces and establishing reward contingencies, the helper should rehearse with the client several instances of occurrence of the target behavior and the self-reinforcing sequence.

- Checking and revising procedures. The client should bring in records of the target behavior and contingent for self-reinforcement discussion with the health care provider and for necessary adjustment of the procedure. The ultimate goal is not to eliminate long-range luxury reinforcers completely but to make them sufficiently infrequent and to increase the desired performance to the point where it can be maintained by the client.

3.1.3.2 Self-generated aversive consequences

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There are essentially two different types of self-generated aversive consequences that can be used in the control of behavior, self-punishment and negative self-reinforcement. These two sets of operations differ in that self-punishment is aimed at interrupting or decelerating a response, whereas negative reinforcement is aimed at increasing a response that serve to terminate or avoid an unpleasant stimulus. Self punishment is the use of an aversive conditioned reinforce in the though-stopping technique. Self-punishment can also involve the removal of a positive stimulus following an undesirable behavior.

In addition, the self-management implementation can be used self-help resources for more successful. Self-help resources refer to instructional materials and supporting from individual and groups that are designed to facilitate or maintain behavior change. Recent growth in the self-help movement has led to increased availability of books, tapes, films, other instructional devices, and social support. However, these programs vary widely in quality, and there is little empirical evidence for their effectiveness and validity. Carefully chosen self-help resources can be integrated into the total self-management program.

The failure of self-management model implementation will occur if the clients unless accepts the treatment goals as desirable and is motivated toward their achievement. Then, health care professional who assist patients to develop self-management require three significant strategies comprising 1) motivating the patients to be satisfied with the self-management program, 2) training self-management regarding modification of specific behavior and 3) giving support for the maintenance of certain behavior by providing reinforcement to enhance patients' effort in achieving self- management. Most importantly, the health care professionals have to

establish rapport with the patients at the beginning of the therapy to ensure their cooperation in the self- management program.

The self-monitoring, self-evaluation, and self-reinforcement processes based on self-management model of Kanfer and Goelick-Buy (1991) were used and applied as the activities of the CCNP that presented in the topic of the developing comprehensive cardiac nursing program for enhancing HRQOL in first diagnosed CHD patients.

3.4 Self-management intervention for improving HRQOL

3.4.1 Self-management intervention in CHD patients

Participation in cardiac rehabilitation has been shown to improve health related quality of life, reduce mortality and reduce cardiovascular risk through secondary prevention strategies (Sundararajan et al., 2004). The example of randomized control trial in coronary heart disease patients which were used self-management model are following.

1) A randomized clinical trial of a comprehensive lifestyle management program (very low-fat vegetarian diet, smoking cessation, stress-management training, moderate exercise, and group support) has been shown to result in significant changes in behavioral risk factors among postmenopausal women with CHD. The program produced significant behavioral improvements in 4 and 12 months adherence to diet, physical activity, and stress-management (Toobert et al., 1998).

2) A randomized controlled trial of a self-management plan for patients with newly diagnosed angina showed a greater reduction in anxiety and depression, the frequency of angina, the use of Glyceryl trinitrate (reduced by 4.19 fewer doses per week versus a reduction of 0.59 per week), and physical limitations. Participants

were also more likely to report having changed their diet and increased their daily walking than non-participants. A disease-specific health-related quality of life measure from the Seattle Angina Questionnaire that was available at the six-month follow-up showed improved psychological, symptomatic, and functional status of patients newly diagnosed with angina (Lewin et al., 2002).

3) A short course cardiac rehabilitation program (an 8-wk exercise and education class in phase 2) was shown to significantly improve 6 of the 8 dimensions of SF-36 by phase 2, and has maintained throughout the 2 year study period. The result showed that this CCRP was highly cost effective in improving long term quality of life in patients with recent myocardial infarction or percutaneous coronary intervention (Yu et al., 2004).

4) The Chronic Angina Self- Management Program (CASMP) is a low-cost program with two hour sessions weekly for six-week periods for the purpose of self-management of chronic cardiac pain (McGillion et al., 2008) In a randomized controlled trial of this psychoeducation program, the result from ANOVA yielded significant improvements in the treatment group's physical functioning and general health aspects of generic HRQOL, angina frequency, angina stability and self-efficacy to manage disease at three months. The result from MANOVA yielded significantly greater positive change for the treatment group on the overall physical health component of the SF-36, compared to the usual care group; no significant differences were found for the overall mental health component of the participants. MANOVA also yielded significantly greater positive change for the treatment group on the Seattle Angina Questionnaire (McGillion et al., 2008).

5) A randomized controlled trial of a health-related lifestyle self-

management intervention (HeLM) demonstrated that participants in the HeLM intervention group had a reduced systolic blood pressure at 8-week follow-up but no significant differences in diastolic blood pressure and cholesterol levels. Participation in physical activity and mean changes in body mass index, fat intake, and fruit and vegetable intake were greater in the intervention group. There was no difference in the number of people who had given up smoking between the two groups. Patients reported high levels of satisfaction with this intervention (Fernandez et al., 2009).

6) A randomized controlled trial of The Expert Patient Program (EPP), a lay led self-management for myocardial infarction, has revealed no statistically significant changes in intention to treat and course attendance. However, trends towards improvement in the intervention group were noted for anxiety, self-efficacy for disease, depression, and cognitive symptom management. The EPP was thought to be more successful at providing the motivation and techniques to translate the advice received into positive behavior change. However, patients may have perceived little need for the EPP as they had recently completed CR. The EPP appears to hold few additional benefits for MI patients who have attended CR (Barlow, Turner, and Gilchrist, 2009).

7) A non-randomized comparative study design of cardiac rehabilitation program for women suffering from their first MI showed that four years after the MI and regardless of CR participation or non-participation, more women had given up smoking, started physical exercise and become more conscious of their diet. The behavioral factors improved, irrespective of CRP participation or not, with the exception of time stress, which was consistently high in the CRP group both 1- and 4-years after the MI (Winberg and Fridlund, 2002).

In conclusion, the content, intensity, and efficacy of self-management programs for CHD are different. Although the programs were affected by the objectives of management of the illness, the interventions differed substantially even within various chronic illnesses. Most cardiac interventions are multiphase, multi-factorial, interdisciplinary, and consist of physical training, health education and psychosocial support. All patients have several of cardiac risk factors, the intended outcome of education and psychosocial support in the area of risk factor management is to produce observable, sustainable changes in patient behavior. Changes in their risk health behavior are aimed at improving health, reducing the risk of deterioration in the condition, and improve their health related quality of life.

3.4.2 Self-management intervention in chronic disease patients

The previous studies suggest that the most successful outcomes of self-management intervention are improvements in knowledge, self-efficacy, changes in lifestyle behavior, self-management behaviors and self-care. These have been demonstrated after self-management interventions for diabetes, asthma, arthritis and coronary artery disease (Barlow et al., 2002; Newmann et al., 2004; Norris, Engelgau, Narayan, 2001).

In addition, Newmann et al (2004) found that self-management programs have resulted in significant benefits measured in quality of life in asthma, diabetes, and arthritis patients. Furthermore, meta-analysis of data from 53 randomized, controlled trials of self-management interventions for adults with diabetes mellitus, hypertension, or osteoarthritis showed that self-management helped reduce hemoglobin A1c and blood pressure levels in diabetes and hypertension,

respectively, but had minimal effect on pain and function in patients with arthritis (Chodosh et al., 2005).

A randomized controlled trial of Chronic Disease Self-Management Program (CDSMP) based on a heterogeneous group of chronic disease patients (heart disease, lung disease, stroke and arthritis) was done. The CDSMP covers generic topics including: an overview of self-management principles, exercise, pain management, relaxation techniques (e.g. guided imagery and breathing exercises), dealing with depression, nutrition, communication with family and health professionals, and goal setting. Goals should be achieved during the following week, be personally relevant, achievable, challenging, have proximal outcomes and depend largely upon a person's own efforts. The emphasis on enhancing self efficacy and goal setting along with inclusion of topics such as problem solving, dealing with depression and exercise, suggest that the CDSMC may be relevant for those who have experienced a MI (Barlow, Turner, and Gilchrist, 2009).

This study was an evaluation of a self-management education intervention for persons with one or more different conditions. The format of the intervention had the attributes of medium-sized classes, lay leaders, and heterogeneity of participants in terms of type and severity of disease. These results indicate that it is possible to educate patients with different chronic diseases successfully in the same intervention at the same time.

This study showed that, at six months, the intervention group had significant improvements in physical and psychological health status through improvements in weekly minutes of exercise, frequency of cognitive symptom management, communication with physicians, self-reported health, health distress,

fatigue, disability, and social/role activities limitations. They also had fewer hospitalizations and days in the hospital (Lorig et al, 1999). The results at two-year follow-up, benefits remained evident, despite worsening disease (Lorig et al., 2001). Another non-randomized, one-year follow-up study carried out by Lorig and colleagues among patients recruited through Kaiser Permanente (a non-profit health maintenance organization) similarly found improvements on health behaviors, self-efficacy and health status (Lorig et al., 2001).

Self-management training for people with chronic diseases (included endometriosis, depression, diabetes, myalgic encephalomyelitis, osteoporosis and polio) can offer benefits in terms of enhanced self-efficacy, greater use of cognitive behavioral techniques, and improvement in some aspects of physical and psychological well-being (Wright et al., 2003).

The literatures review related to self-management education in diabetes included 72 studies conducted by Centers for Disease Control and Prevention (Norris, et al., 2001). Forty six studies showed an effect on patient knowledge and performance of technical skills: 33 studies showed positive impact and 13 showed negative impacts on patient knowledge and performance of technical skills. Patient education led to a reduction in cardiovascular risk measures (elevated weight, cholesterol levels, and blood pressure) in only 18 of 45 studies. The CDC review indicates that patient education by itself is not sufficient to improve clinical outcomes, and that greater patient knowledge does not correlate with improved glycemic control.

In conclusion, of the studies in chronic disease that were reviewed, self-management intervention were delivered in a variety of setting with the most popular being clinical locations (hospital) or the home environment. Self-management

approaches were either group-based, an individualized approach, or a combination of both. The format of self-management intervention approaches varied and included booklets, lectures, role play and contracting (goal setting). Most approaches combined at least two formats of delivery. In addition, a diverse range of self-management components was broadly identified as providing information, drug management, symptom management, management of psychological consequence, lifestyle, social support, communication, and other self-management strategies such as career planning, goal setting, and accessing support services. Multi-component programs are usually designed to increase the repertoire of participants' self-management skills within the realities of living with a chronic condition. The approaches used are not specific to the country of origin.

The effective self-managers will feel confident in selecting the techniques that they believe will meet their specific needs at a given point of time and in a given environment or situation. Multi-components programs are best considered as a "package" of self-management skills, similar to the standard packages of care provided in clinical setting. However, no specific intervention has proved to produce superior results therefore there is no gold standard of self-management (Barlow et al., 2002).

Thus, the comprehensive cardiac nursing program of this study was approached the individual participant and delivered both clinical setting at medical ward and home visit. The approaches were combined multi-components including giving information, training for risky health behaviors management, goal setting, risky health behaviors management in the real life situation, monitoring and evaluating for the achieving of risky health behaviors management, and reinforcing

related to the achieving of their goal. In addition, the family members were cooperated in this program and acted as the supporter and assistant to promote the achieving the risky health behavior management of the participant.

4. Nursing care for enhancing HRQOL in first diagnosed CHD patients

4.1 Nursing care for first diagnosed CHD patients

Patients judged to be at intermediate or high likelihood of significant CHD are often hospitalized for further evaluation and therapeutic intervention. The nursing priorities for caring CHD patients were composed of 1) relieve/control pain, 2) prevent or minimize development of myocardial complications, 3) provide information about disease process/prognosis and treatment, and 4) support patient in initiating necessary lifestyle or behavioral changes. In addition, the discharge goals were composed of 1) achieves desired activity level; meets self-care needs with minimal or no pain, 2) free of complications, 3) disease process/prognosis and therapeutic regimen understood, 4) participating in treatment program about behavioral changes, and 5) plan in place to meet needs after discharge (National Heart Lung and Blood Institute Disease, 2011). Then, the significant component of both nursing care plan and discharge plan were supported the patients for lifestyle or behavioral change.

4.2 Comprehensive cardiac program

The cardiac interventions for caring CHD patients were composted of multi-components that mostly integrated cardiac rehabilitation in the comprehensive manner, and mostly used the term of cardiac rehabilitation. Comprehensive cardiac rehabilitation programs tend to provide a range of services to aid the recovery and adaptation of patients, and to support family members.

Cardiac rehabilitation had been defined by the World Health Organization (1993a) as “the sum of activities required to influence favorably the underlying cause of the disease, as well as to ensure the patients the best possible physical, mental and social conditions so that they may, by their own efforts, preserve, or resume when lost, as normal a place as possible in the life of the community”.

In addition, the American Heart Association stated that cardiac rehabilitation programs should consist of a multifaceted and multidisciplinary approach to overall cardiovascular risk reduction. The cardiac rehabilitation provides the most comprehensive review of the scientific literature and evidence-based recommendations regarding all aspects of the discipline. The American Heart Association and the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) recognize that all cardiac rehabilitation should contain specific core components that aim to optimize cardiovascular risk reduction, foster healthy behaviors, improve functional capacity, reduce the risk of further coronary events and disability, and reduce subsequent morbidity and mortality due to cardiovascular illness (Balady et al., 2000). The ultimate goal of cardiac rehabilitation is to restore and maintain an individual’s optimal physiological, psychological, social, and vocational status.

The clinical practice guidelines for cardiac rehabilitation stated that ‘‘cardiac rehabilitation services are comprehensive, long-term programs involving medical evaluation, prescribed exercise, cardiac risk-factor modification, education and counseling (Ades et al., 2003) which congruence with the recommendation form the American Heart Association. Comprehensive and detailed guidelines regarding cardiac rehabilitation have been published by the AACVPR and endorsed by the

American Heart Association (Balady et al., 2000) suggested that the cardiac rehabilitation should be composed of the core components of baseline patient assessment (medical history, physical examination, and testing), nutritional counseling, risk factor management (lipids, hypertension, weight, diabetes, and smoking), psychosocial management, physical activity counseling, and exercise training.

As such, cardiac rehabilitation is standard care that should be integrated into the overall treatment plan of patients with CHD. CHD patient's particular with multiple cardiac risk factors should receive the high standard of treatment from cardiac rehabilitation for effective care. Logistically, cardiac rehabilitation can best be accomplished by comprehensive programs, yet these programs are not always readily accessible. Then, for this study used the term comprehensive cardiac nursing program and was meant that this program has multi-important components nursing intervention including promotion, prevention, caring, and rehabilitation related to risky health behaviors management.

First diagnosed CHD patients who participated in cardiac rehabilitation that emphasized in lifestyle modification related to risk factors reduction in various intense, components, and strategies including administered in exercise, diet management, cholesterol and blood pressure control, reducing weight, stress management, and smoking cessation were significantly improved HRQOL (Lisspers et al., 1999; Warrington et al., 2003; Yu et al., 2003; 2004). In addition, the study of Hofer et al. (2006) found that recent CHD patients who participated in comprehensive cardiac rehabilitation had improved in cardiac risk factors and HRQOL. However,

some studies found no significant improvement in HRQOL (Chan et al., 2005; Hawkes et al., 2003; Mendes de Leon et al., 2006; Tingström et al., 2005).

From Thai studies, there were many studies about cardiac rehabilitation that affected to enhance various expected outcomes including physical functioning, symptom health outcomes, psychological outcomes, adaptation, risk factors reduction, lifestyle, health behavior, and health related quality of life (Sineenut Senivong na ayudthaya, 2004), whereas not found comprehensive cardiac intervention has implemented for enhancing HRQOL in first diagnosed CHD patients. At present, researcher found one study of nursing intervention implemented for first diagnosed CHD patients, one study emphasized on lifestyle modification to improve functional capacity, and three studies had been promoted HRQOL in CHD patients;

Chulaporn Changperk (2001) studied the effect of transitional care on health perception and health behavior in first diagnosed CHD patients. This transitional care was developed based on Transition theory and King of goal attainment. After obtaining transition care, patients in one experimental group design showed significantly higher health perception and health behavior.

Sopida Rattanapruks (2002) studied the effect of intensive lifestyle modification program on functional capacity in stable coronary artery disease patients. Forty-two asymptomatic or mild angina pectoris patients randomized into experimental and control group. An intensive lifestyle modification program (ILM program) composed of low-fat plant-based diet, smoking cessation, stress management, moderate exercise and group support without lipid lowering agents that implemented 4 months. Patients in ILM group demonstrated significant more improvements in functional capacity.

For three studies of nursing interventions enhancing quality of life; two studies about the effects of cardiac rehabilitation program on maximum oxygen uptake and QOL in patients' undergone coronary angioplasty (Nithiwadee Methajan, 2001) and in patients who received medication (Phasuk Keawcharenta, 2003). Both researchers developed these interventions based on cardiac rehabilitation society of Thailand. The result of both studies showed that these interventions were significantly improved QOL. Although both interventions were significantly improved on QOL, but the limitations are purposive selection, small sample size, and the first study no standard procedure in psychosocial aspect that can effect to improved QOL. Another one, Aem-Orn Saengsiri (2003) studied the effects of a self-care promotion program on QOL and reduction of risk factors of CHD patients. This intervention was developed base on Orem's nursing theory and Ornish's heart disease reversal program. Sample was selected by purposive sampling in patients who received treatment by medication, PTCA, and CABG. The results revealed LDL and QOL remained unchanged. The reasons for non significant of this study were high QOL scores at the base line in both groups and an average monthly personal income was higher than other studies. In addition, the sample was purposive selection from 1 setting.

The limitation of all these studies provided for positive cardiovascular health especially improve HRQOL but the results were inconsistent, purposive sample sizes were small, and the outcomes differed among studies.

The commonality of effective cardiac rehabilitation seems to be an intense and comprehensive format in combination with long duration of contact and follow-up (Aldana et al., 2006; Gordon and Haskell, 1997; Jolly et al., 1999). Interventions that are less intensive, comprising only a single or very few sessions and/or follow-up

contacts have been shown to be less effective (Gordon and Haskell, 1997; Jolly et al., 1999; Nordmann et al., 2001). Correspondence to The American College of Cardiology and The American Heart Association (2001; 2007) suggested that cardiac rehabilitation significantly reduce cardiac risk factor and enhance HRQOL should be emphasized in multi-components related to lifestyle modification by covering cardiac risk factors reduction.

4.3 Ornish's heart disease reversal program

The existing knowledge found that Ornish's heart disease reversal program is emphasized in lifestyle modification related to risk factors reduction which extremely implemented worldwide for a long time. Ornish's heart disease reversal program has indicated with an aggressive focus on modification of risk factor related to lifestyle modification for CHD patients that can retard or even reverse underlying CHD progression and enhance various expected outcomes (Ornish et al., 1990; 1998).

The main components of lifestyle modification related to risk factors reduction of Ornish's heart disease reversal program were composed of 4 components that can conclude as following:

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4.3.1 Relaxation

The relaxation techniques of this program used Yoga or the stretching exercise, breathing techniques (abdominal breathing, deep breathing), meditation (focusing on your breathing, focusing on a sound, mindfulness, prayer or devotion), communication skill, progressive relaxation, visualization techniques, and group support.

4.3.2 Quit smoking

The single most important factor for people who successful quit smoking was belief and confidence that they could do it, and you can do it. But there is no magical quick fix. Don't quit until you are ready. Do it in your own way and in your own time. Then, Ornish's heart disease reversal program supported the participants for self-confidence to accomplish their quit smoking with supporting from several methods.

4.3.3 Physical activity and exercise

This program suggested the participants for increasing physical activities and moderate exercise in their normal life. The moderate exercise was defined as at least 30 minutes a day of light or moderate intensity activities such as walking. Walking 30 minutes a day or for an hour three times a week is the minimum amount of exercise recommended.

4.3.4 Diet

The diet based on this program were composed of very low in fat and cholesterol, has less than 10 percent of calories from fat, excludes foods in high saturated fat, excludes high salted food and MSG, includes high in fiber and egg white, not restricted in calories.

Many studies examined the effects of the Ornish's heart reversing program have been reported significance in cardiac risk factors reduction; lipid profiles, blood glucose, percent body fat, blood pressure, nutrition consumption, anginal pain outcome, functional capacity, and reversal of atherosclerosis in diameter stenosis (Aldana et al., 2003; 2006; Frattaroli et al., 2008; Haskell et al., 1994; Ornish et al., 1990; Ornish and The Multicenter Lifestyle Demonstration Project Research Group., 1998; Schuler et al., 1992; Watts et al., 1992). In addition, some studies examined the

effects of the Ornish's reversing program have also shown improvements in HRQOL (Aldana et al., 2006; Frattaroli et al., 2008; Koertge et al., 2003; Pischke et al., 2006). All these data supported that the Ornish's reversing program is effective CCNP that providing many expected health outcomes.

The example of cardiac rehabilitation programs were implemented based on Ornish's heart disease reversal program.

Ornish et al (1998) developed program for lifestyle modification. The program included; 10% fat whole foods vegetarians diet, aerobic exercise, stress management training, smoking cessation, group psychosocial support, (without lipid lowering drugs). The 48 patients with coronary heart disease were assessed and 35 completed the 5 year follow up attended to stenosis in coronary artery vessels. They found that the experimental group, 28 patients had the average percent diameter stenosis at based line decreased 1.75 absolute percentage points after 1 year and by 3.1 absolute percentage points after 5 years. In contrast, the average percent diameter stenosis in the control group increased by 2.3 percentage points after 1 year and by 11.8 percentage points after 5 years. Finding from the study suggested that intensive lifestyle change reduced reducing coronary heart disease without lipid-lowering drug.The study supported that lifestyle modification can reduce risk factors of coronary heart disease, which a self-care activity is the way to promote lifestyle change.

Aldana et al (2006) examined the effect of the Ornish program for reversing heart disease and cardiac rehabilitation (CR) on psychosocial risk factors and quality of life in patients with confirmed coronary artery disease. Participants had previously undergone a revascularization procedure. The 84 patients self-selected to participate

in the Ornish program for reversing heart disease (n = 507 28), CR (n = 28), or a control group (n = 28). Twelve psychosocial risk factors and quality of life variables were collected from all three groups at baseline, 3 months, and 6 months. At 3 and 6 months, Ornish group participants demonstrated significant improvements in all 12 outcome measures. The rehabilitation group improved in 7 of the 12, and the control group showed significant improvements in 6 of the variables. Intensive lifestyle modification programs significantly affect psychosocial risk factors and quality of life.

Frattaroli et al (2008) studied the effects of intensive lifestyle modification (10% calories from fat, plant based; engage in moderate exercise 3 hours/week; and practice stress management 1 hour/day) on symptom relief, changes in angina pectoris, coronary risk factors, quality of life, and lifestyle behaviors in patients with stable coronary artery disease enrolled in the multisite cardiac lifestyle intervention program, at 22 sites in the United States. The result showed that improvements in angina in patients making intensive lifestyle changes could drastically reduce their need for revascularization procedures. Significant improvements in cardiac risk factors, quality of life, and lifestyle behaviors, and patients with angina who became angina free by 12 weeks showed the greatest improvements in exercise capacity, depression, and health-related quality of life ($p < 0.05$).

All these data supported the Ornish's heart disease reversing program is effective comprehensive cardiac intervention that providing many expected health outcomes, especially in reduce cardiac risk factors and improve HRQOL. Then, the researcher used and translated the Ornish's heart disease reversal program into Thai

content which provided for first diagnosed CHD patients and cooperated in the booklet and DVD.

5. Developing comprehensive cardiac nursing program for enhancing HRQOL in first diagnosed CHD patients

CCNP was developed based on self-management model (Kanfer and Goelick-Buy, 1991). CCNP would provide the knowledge and practice skills to manage the risky health behaviors that significantly related to improve health status with improve health related quality of life. All activities of this program which implemented into five sessions can be described and divided into 1) self-monitoring, 2) self-evaluation, and 3) self-reinforcement processes based on self-management model as follows:

1) Self-monitoring process. This is continuous independently assessed by an observer that leads to change from the risky health behaviors to the desired health behaviors. Self-monitoring not only provides a foundation but it is a necessary condition to determine if goals are to be achieved, as well as heightening self-awareness. To improve self-monitoring of chronic illness, three suggestions are offered (Creer and Bender, 1993). First, patients should monitor only the phenomena that are operationally defined as the target behavior. Second, an objective measure should be included. Finally, in gathering information, it is important for individuals to observe and record information only during specified periods of time.

Self-monitoring of CCNP was implemented with the participants record their risky health behavior to obtain baseline frequencies of target behaviors in “the health behaviors related to cardiac risk factors questionnaire”. Their target behaviors were composed of diet behavior, physical activity and exercise behavior, smoking behavior, and stress behavior due to all of these behaviors are related to increase cardiac risk factors that

influence to the progression of coronary heart disease. The participants have to record their target behaviors in the easy way that altered or measured, counted frequencies, and noted the circumstances of occurrence in the diary heart book by recording the first two selected target behaviors in the first week after discharge, and add the last two selected target behaviors in the second weeks. After that, they have to continuous monitor and record all target behaviors until finished this program (8 weeks after discharge). Both intervener and the participants clearly specify the priority setting of target behaviors to be observed and discussed the entire self-monitor recording method to illustrate the limits of target behaviors. The diary heart book can available at anywhere and anytime that the behavior is likely to occur. Self-monitoring assignments will be reviewed following the session in which they were assigned.

Establishment of criteria and individual goal setting would occur only after careful systematic preparation (Creer and Halroyd, 1997) by giving CHD significant information both CHD knowledge and CHD self-management skills that reflects the information collection of self management model. Patients must primarily acquire knowledge of their health problems or condition of their chronic illness that is to be prevented or managed and how their risk factor or the disorder itself can be managed. CHD significant information would provide at the second day of admission for enhancing patients' CHD knowledge. The participants' self-management skills would cover the cardiac risk factors management including diet management, physical activity and exercise management, smoking cessation management, and stress management by using anticipatory regulation practice and would provide at the third day of admission.

Following the participants learn about their illness and their roles in its management, specific goals can be set to improve their health and well-being. Setting realistic goals is the key to goal attainment. Goal-setting for this study was undertaken according to the SMART principles which have been demonstrated to enable individuals to stay motivated and achieve their goals (Armstrong, 2006 cited in Kanfer and Goelick-Buy, 1991). The acronym SMART stands for Specific, Measurable, Achievable, Realistic and Time. The participants were instructed to set goals that were flexible to accommodate any unexpected challenges.

Successful collaboration between intervener and participants in goal setting guides the participant in organizing and applying self-management skills to achieve selected goals. The relationship between the participants and intervener were called partnership which active experience collaborative care in manage their health, rather than passive recipients of health care interventions. In addition, intervener used contracting and stimulus control as additional techniques for achieving the goal.

2) Self-evaluation process. This process consists of a comparison between the information obtained from self-monitoring and the person's standard for the given behavior. Kanfer and Goelick-Buy (1991) have emphasized the importance attribution of self-evaluation process at two stages of the model. First, the participants must be engaged in goal directed behavior. The behaviors were evaluated with respect to its relevance to the individual's short and long term goals. Secondly, in evaluating the cause of success or failure to reach the aspired criterion, the participants must be attributed the cause of a discrepancy to some aspect of self or to some external factor.

To achieve the participant's goal, the person's standard for the given behavior would be set and related to an objective measurement. The performance criteria or

standards of the risky health behavior's management were included 1) eat the very low fat and salt diet everyday, 2) take more physical activities and exercise at least 30 minutes 3 times a week, 3) play a yoga, deep breathing, and meditation at least 30 minutes everyday, and 4) quit smoking and distant from the secondhand smoking area everyday.

In addition, the participants have to evaluate and make adjustment about the recording health behavior data, and evaluate the antecedent and consequences of success or failure to reach the aspired criterion with considering the intrapersonal and contextual factors. The participants can compare collected data about their condition with standards criteria in order to evaluate and make adjustment about their health status or health problems.

3) Self-reinforcement process. This process presents that the participants react cognitively and emotionally to the results of the self-evaluation. After comparing his/ her behavior with the standard criteria, the participants would have both positive and negative reactions, which affected the participants to maintain the behavior, thus strengthening it. Negative reaction, in contrast, would inhibit the behavior, leading to modification of behavior. Positive reaction, therefore, was an important motivation for the continuation of behavior.

In this study, the participants have to evaluate and present his/her positive and negative reactions and outcomes. After that, the participants used the negative reactions to prohibit the behaviors or leading to modification of behaviors, and used the positive reactions to motivate the continuation of desired health behaviors. Intervener and family member used enacting motivation, and emphasized the continuation of desired health behaviors. Intervener gave the scenario of negative role

model with showed the negative consequences and asked the participants to critique the scenario “What do you feel? If it belongs to you, what will you do next?” Intervener trained the participants and family member to use self-reinforcement when the participants accomplished the risky health behaviors management by using the material reinforcement or verbal symbolic self-reinforcement that related or promoted their better health. Intervener also usually used the verbal reinforcement to participant when the participants accomplished the changing behaviors that related or promoted their better health, and increased the desired health behaviors. The participants were asked to imagine the consequences of accomplished and not accomplished the desired health behaviors by intervener.

Self-management techniques have probably made repeated previous attempts to change his or her risky health behavior. Failure might have been due to lack of environmental support, lack of knowledge of specific behavior change methods, or lack of sufficient incentives for trying to change (Kanfer & Goelick-Buy, 1991). Then, CCNP would promote self-management by using family member cooperate in this program and they can call intervener at any time for environmental support. The family member was cooperate in CCNP to take action roles as supporting, helping, and assisting the participants to conduct appropriate health behavior and achieve the expected outcomes in risky health behaviors management. As Mead et al (2009) mentioned that combining social support was more effective to improve self-management for achieving the goals. In addition, this intervention used CHD self-management education from booklet for enhancing knowledge specific to behavior change, and using the negative/positive scenario for enhancing incentives for more successful from the self-help resources as the model suggestion.

The target health behaviors management of this program was composed of diet management, physical activity and exercise management, smoking cessation management, and stress management based on Ornish's heart disease reversal program (Ornish, 1990), and existing knowledge. The processes of the target health behaviors management were developed based on self-management model of Kanfer and Goelick-Buy (1991). The main contents were developed based on Ornish's heart disease reversal program (Ornish, 1990), and existing knowledge.

1) Diet management. Participants were encouraged to adopt a very low fat and very low cholesterol diet, which include egg whites and fat-free products (fish, beans, skinless poultry, and lean meats). The diet consists of less than 10% of total calories from fat, 15% of calories from protein, and 75% of calories from complex carbohydrates. Non sweet fruits, vegetables, grains, and soybean products can eat without caloric restriction. Limit intake of high calories foods including foods like soft drinks, Thai dessert, ice cream and candy that have a lot of sugars. Participants were instructed to have less than 5 mg of cholesterol and 2 ounces of alcohol per day. One cupper day of non-fat milk can provide. No caffeine is allowed, and salt intake is also restricted especially for those with hypertension, heart failure, or kidney disease.

2) Physical activity and exercise management. This program suggested in moderate exercise by walking 30 minutes at least three times per week. Reaching the target of heart rate is to be 70% of maximum heart rate that most appropriate for coronary heart patients. The intervener would describe the benefit of aerobic exercise and regular physical activity to heart function, and train the participants to check their heart rate. In addition, the participants were encouraged to balance a level of physical activity that keep fit with the number of calories intake.

3) Smoking cessation management. Promote the participants awareness of high risk behavior and how to reduce risk form it; the participants were encouraged to consider behavior changes in tobacco use; quit smoking and distant from the secondhand smoking area everyday; motivational patients to take action and to maintain these new health promoting behaviors. The single most important factor for people who successful quit smoking was belief and confidence that they could do it, and you can do it. Don't quit until you are ready. Do it in your own way and in your own time. Quitting smoking is a process, not a one-time event. At first, you may feel ambivalent about quitting. After that, quit smoking provides a lot of benefits.

4) Stress management. This program suggests yoga, deep breathing, and meditation. The aims of use these activities were to increase concentration, awareness, and sense of relaxation. The researcher demonstrates and trains participant to practice stress management and encourage performing 30 minute's everyday.

The monitoring for this intervention used The Coronary Heart Disease Patient's Management Questionnaire to test the participants meet the standard criteria, used the diary heart book for monitoring and evaluating risky health behaviors management related to reduce cardiac risk factors and awareness of health problems, and use telephone call at 4 and 6 weeks post intervention implementation.

The media of this program were composed of DVD, booklet, and the diary heart book for enforcing the knowledge and practice skills for CHD management with enhance HRQOL. DVD would describe and demonstrate about risky health behaviors management related to cardiac risk factors reduction. Coronary Heart Disease Booklet would provide information about cardiac risk factors, clinical course and patho-physiology of disease, cognitive affective and behavioral factors affected to worse

progressive of CHD, management, complication, and risky health behaviors management. The diary heart book was used for self-monitoring and self-evaluation about risky health behavior management.

It can be considered that first diagnosed CHD patients are staying in the stage of adjustment to improve health status. Unhealthy lifestyle or risky health behaviors is a key determinant of whether or not you will develop CHD. Consequently, the diagnosis requires risky health behaviors management that related to reduce cardiac risk factors such as manages to diet, smoking habit, physical activity, and stress management (Condon and McCarthy, 2006; Warrington et al., 2003; Yu et al., 2004). First diagnosed CHD patients have many cardiac risk factors that related to the need risky health behaviors management, and coping with chronic course of disease (Jolly et al., 1999; Moser et al., 1993). Correspondingly, risky health behaviors management is one of the most critical treatment options to prevent the development of symptoms, relieve the symptoms, improve HRQOL, and decrease the risk of the heart attack and death.

Offering early intervention of risky health behaviors management related to risk factors reduction to a target group of first diagnosed CHD patients must benefit in improving their HRQOL. The importance reinforces of addressing health behavior management as soon as possible after CHD, particularly in patients with higher levels of cardiovascular risk, as this possibly will optimize improvement in HRQOL (Berra, 2003; Michelle, 2001; Oldridge et al., 1998).

Offering early intervention of risky health behaviors management related to risk factors reduction to a target group of first diagnosed CHD patients must benefit in improving their HRQOL. The importance reinforces of addressing health behavior management as soon as possible after CHD, particularly in patients with higher levels of cardiovascular risk, as this possibly will optimize improvement in HRQOL (Berra, 2003; Michelle, 2001; Oldridge et al., 1998).

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CHAPTER III

RESEARCH METHODOLOGY

In this chapter, methodological aspects including the research design, population and sampling, the setting, instruments, data collection, protection of the participants' human rights and data analysis are described.

Research Design

In order to examine the effect of the CCNP on HRQOL in first diagnosed CHD patients, the randomized control-trial two groups pretest and posttest research design was conducted (Friedman, Furberg, and DeMets, 1998; Knapp, 1998; Shadish, Cook, and Campbel, 2002). The participants were randomly assigned to either the experimental or the control group. This research design diagram was showed as following;

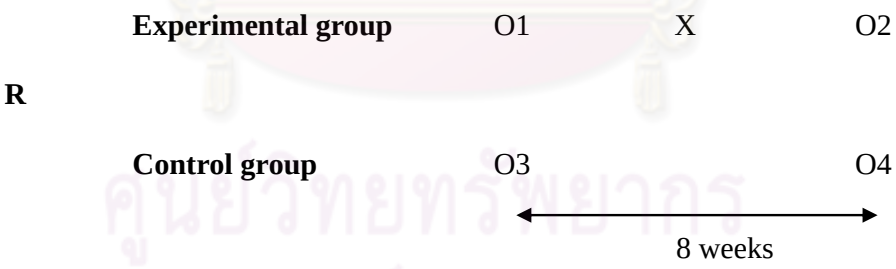

Figure 2 Research design

R = Random assignment in order to place samples into either experimental or control group by using four blocked randomization

O1 = Pretest in the experimental group at second day of admission

O3 = Pretest in the control group at second day of admission

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O2 = Posttest in experimental group at 8 weeks after discharge

O4 = Posttest in control group at 8 weeks after discharge

X = Comprehensive Cardiac Nursing Program

Setting

This study was conducted at Singburi and Angthong hospitals. Due to Singburi and Angthong hospitals are the first and second ranks of CHD incidence rate (average five years retrospective) (MPH, 2001; 2007). In each setting composed of experimental and control groups. Both hospitals are the secondary health care setting which belonged to Ministry of Public Health and covered 300-320 beds. They provided an intermediate level of health care for CHD patients that included diagnosis and medical treatment by medical doctors or physicians. They cannot provide the cardiologist or invasive treatment such as Percutaneous Coronary Intervention and Coronary Artery Bypass Graft.

Population

The population for this study was first diagnosed CHD patients who received medication treatment.

Sample

The sample for this study was first diagnosed CHD patients who received medication treatment at Singburi and Angthong hospitals. Sample was recruited through the eligibility criteria. The following eligibility criteria were as follows.

1) Diagnose with CHD including STEMI, NSTEMI and UA by physician based on electrocardiography, cardiac enzyme or troponin T investigation and were received the medical treatment.

2) Lack of complication that barrier to cooperate in the study such as severe congestive heart failure, or severe arrhythmia, or severe uncontrolled hypertension (systolic blood pressure > 200 mmHg and/or diastolic blood pressure >100 mmHg), or physical problems that precluded exercise.

3) Classify in class III or IV base on Canadian Cardiovascular Society Classification system.

4) Competent to read and write Thai

5) Willing to participate in the investigation

1. Sample size

Researcher calculated the sample size for sequencing of assignment to group that could be completed before initiation of data collection. For this study, sample size was calculated base on statistical power analysis and effect size determinations, which used a sample size table to determine the required sample size. The significance criteria was set =.05, effect size = .63 based on the previous study that had characteristic same as this study (Hofer et al., 2006a) and power = .80 based on the accepted value of power (Cohen, 1988; Polit and Beck, 2006).

Effect sizes for the comparison baseline/follow-up were calculated from the study of Hofer et al., (2006). Effect size = (Mean of the overall HRQOL at pretest - Mean of the overall HRQOL at posttest)/Standard deviation of overall HRQOL at pretest, = (4.80-5.51)/1.12= -0.63. According to the table of sample size from the principle of Cohen (1988) found that 35 cases in each group were sufficient for the comparison. This study would follow up the participants 8 weeks after discharge. To prevent withdrawal of participants which assume an attrition rate at 20% based on drop out rate from previous study, the sample size should be adding recruit 7

participants per group. Then, the sample size was recruited 42 participants per group and the total numbering was 84 participants.

2. Sampling procedures

Researcher used random assignment the participants into experimental or control group by using blocked randomization. The randomization tends to produce the study groups comparable with respect to known and unknown factors, removes researcher bias in the allocation of participants, and guarantees that statistical tests will have valid significance levels (Friedman, Furberg, and DeMets, 1998).

When the participants who met the eligibility criteria admitted at medical ward, a research assistant approached the participant by individual. If he/she decided to join this study, they have to signed the inform consent. After that, researcher assigned participants into experimental group or control group by using blocked randomization that already conducted prior to data collection. The advantage of using block randomization was the equal number of participants in the experimental and control groups that enhance the equivalence between groups (Friedman, Furberg, and DeMets, 1998).

Four block size was set to randomize four patients at a time ensuring that two patients were allocated to the experimental group and two patients to control (Friedman et al., 1998; Vickers, 2006). As it happens, there are six different possible ways (EECC, ECEC, CEEC, CECE, CCEE, and ECCE), to randomize four patients equally to two groups. So researcher used draw technique to randomly select one of the six types of block at the time when the first patient was randomized and this determines the treatments received by the first four patients. A second block was randomly selected when the fifth patient was registered in order to create allocations

for patients 5–8. Researcher continually used draw technique to randomly select one of the six types of block until complete the total number in each group. The sampling procedures that were explained as previously, can present and conclude in Figure 3.

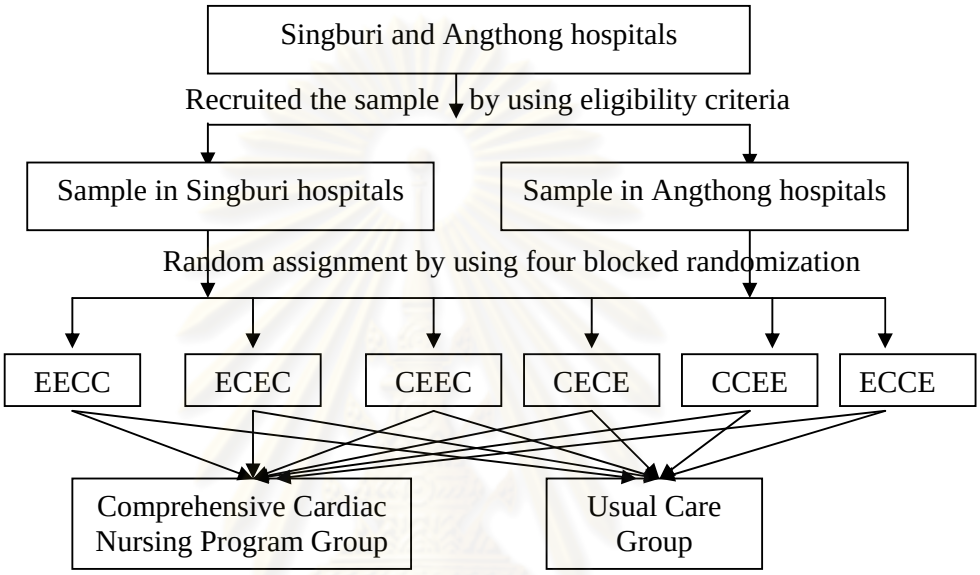

Figure 3 The sampling procedures

All of these procedures minimize the possibility of imbalance among potentially confounding variables and achieves better balance between the experiment and control group (Friedman et al., 1998; Shadish et al., 2002). Seventy-four participants who fulfilled the eligibility criteria were approached. All of them decided and appreciated to participate in this study, no one refused. Then, the sample consisted of 74 patients, 37 of them were random assigned in the control group who obtained usual care while the other 37 were random assigned in the experimental group who obtained usual care in addition to comprehensive cardiac nursing program. No one has to dropout from this study that might be related to the researcher used the

appointment schedule and telephone call for reminding them prior to the appointment date.

Research Instruments

The instruments that were used in this study comprised of three types; 1) data collection instruments, 2) intervention instruments, and 3) experimental monitoring instruments. The content validity of instruments was examined by 7 experts including four nurse instructors from various institutes who expert in self-management, quality of life, cardiac rehabilitation, and coronary heart disease, two advanced practitioner nurses who expert in cardiovascular nursing care, and one physician who experts in coronary heart disease and cardiac rehabilitation. Furthermore, researcher had one additional in mass media communication instructor who experts in multimedia for approving the media of this program.

1. Data collection instruments

All participants in both groups have to complete; 1) Medical record was used for collecting the medical and laboratory investigation that provided the significant data of this study, 2) Personal data and the health behaviors related to cardiac risk factors questionnaire was used for obtaining the data that affected to their coronary heart disease and health related quality of life, and 3) Quality of life index-cardiac version IV was used to measure the health related quality of life's outcome of this study. The instruments no 1-2 were used only pretest to compare the factors that might be affected the equivalence between the participants who received the CCNP in the experimental group and the participants who received the usual care in the control groups.

1.1 Medical record

This instrument was developed by researcher for collection of personal data about medical and laboratory investigation. All data were included the cardiac risk factors that related to the occurrence and progression of disease, factors predicted health related quality of life, data supporting to be diagnosed with CHD, and medical treatment. Then, weight, height, BMI, systolic/diastolic blood pressure, symptoms, EKG, Troponin T, total cholesterol, triglyceride, high density lipoprotein, low density lipoprotein, fasting blood sugar, HbA1c, and type of medication were recorded (Appendix A).

1.2 Personal data and the health behaviors related to cardiac risk factors questionnaire

This instrument was developed by researcher based on extensive literature review about modifiable and non modifiable cardiac risk factors and factors affected to health related quality of life. This instrument was divided into two parts (Appendix B). The first part twelve questions concerning personal data were asked including age, gender, marital status, religious, education, occupation, working status, income, economic status, comorbidties, family history, and significant others. The participants have to check only one of the following answer choices in each item that mostly directed or related to them

The second part asked about the health behaviors related to cardiac risk factors including 5 domains 36 items of 1) eating behavior 10 items, 2) coping with stress 10 items, 3) personality 10 items, 4) physical activity and exercise behaviors 4 items, and 5) smoking behavior 2 items. The score points for the second part were various depending on each behavior. The scores of eating behavior and coping with

stress questionnaires were rated by the frequency of doing with the answer choices which were not conduct (1), once or twice a week (2), three-five times a week (3), and six-seven times a week (4). The total scores were ranged from 10-40 in each part. The high scores indicated good health behaviors or low cardiac risk factor in eating and coping with stress behaviors.

The scale of personality questionnaire was classified into two answer choices: yes (1) and no (0). The total scores were ranged from 0-10. The high scores indicated the type A personality that related to the occurrence and progression of coronary heart disease. The scale of physical activity and exercise behavior were classified into two answer choices: yes (1) and no (0). In addition, the participants have to fill the data in the blank form, and checked the frequency and duration of physical activity and exercise behavior. The frequency was divided into three groups: less than 3 days (1), more than 3 days (2), and everyday (3). The duration was divided into two groups: less than 30 minutes (1) and more than 30 minutes (2). The high scores indicated good health behaviors for physical activity and exercise.

The last domain, smoking behavior was classified into two answer choices: yes (1) and no (0). In addition, the participants were asked ex-smoking that the answers were also classified into two answer choices: yes (1) and no (0). The high scores indicated high cardiac risk factor in smoking behavior.

The content validity of this instrument by the 7 experts showed the CVI = .98, and =.85 for the personal data questionnaire of the first part and the health behaviors related to cardiac risk questionnaire of the second part respectively. This instrument also tried out with 30 first diagnosed CHD patients. The resulted of internal consistency reliability for the overall questionnaire was .73, eating behavior =

.63, coping with stress =.72, personality =.88, physical activity and exercise behaviors =.71, smoking behavior =.66.

1.3 The Quality of life Index-Cardiac version IV

The instrument evaluating the outcome of this study was specific HRQOL instrument in which a global measure. The Quality of life Index-Cardiac version IV (QLI-cardiac version IV) was developed by Ferrans and Powers (1985; 1998) and translated to Thai by Atchara Sukornthasan. This instrument was used with permission of Dr. Ferrans and Dr. Atchara Sukornthasan who developed, translated and published it on website (http://www.uic.edu/orgs/qli/). The reasons to choose this instrument were the congruent concept of health related quality of life in this study. In addition, the psychometric properties of this instrument from previous studies were good (Appendix D).

They developed the Quality of Life Index to measure quality of life in terms of satisfaction with life. This instrument was constructed into two parts, 70 items: the first measures satisfaction with various aspects of life and the second measures the importance of those same aspects, and the overall HRQOL score refer to perceived HRQOL. Scores were calculated in four domains: health and functioning (15 items), social and economic (8 items), psychological/spiritual (7 items), and family (5 items) (Ferrans et al., 2005).

The QLI - Cardiac version IV was a six-point likert scale rating. Patient had to decide for each item, which one best describes how satisfied was in their lives and choose one of the following options in the scoring system: very dissatisfied, moderately dissatisfied, slightly dissatisfied, slightly satisfied, moderate satisfied, and very satisfied from 1-6, respectively. And which one best describes how

important was in their lives and choose one of following options in the scoring system: very unimportant, moderately unimportant, slightly unimportant, slightly important, moderate important, and very important from 1- 6, respectively.

Overall QLI scores

1) Recode satisfaction scores to center the scale on zero, subtract 3.5 from satisfaction response for each item.

2) The scores for the weight satisfaction responses are multiplied by the paired importance responses, the raw importance responses for each pair of satisfaction and importance items.

3) The overall or total quality of life scores are obtained by summing the scores in step 2.

4) To prevent bias in overall quality of life scores due to missing data, divide, each sum score will obtain in step 3 by the number of items answered by that individual. Next, to eliminate negative numbers for the final score, add 15 to every score. This procedure will show the overall quality of life scores range from 0-30. The lower scores indicate lower quality of life and higher scores indicate higher quality of life.

The QLI-cardiac version IV was test the content validity based both on an extensive literature review and also was provided by an acceptably high rating using the content validity index. Construct validity test by convergent validity with strong correlation r =.93. The reliability was supported by internal consistency reliability with used Cronbach's alphas ranging from .86-.98 across 7 studies, temporal (stability) reliability r =.87, Responsiveness to change (sensitivity) of the QLI has been demonstrated in 27 published intervention studies

(http://www.uic.edu/orgs/qli/). The QLI-cardiac IV Thai version was test internal consistency reliability by Cronbach's alphas .79 (Aem-Orn Sangsiri, 2004) and .88 (Kusuma Kuwatsamrith, 1996).

The QLI-cardiac version IV were tried out with 30 first diagnosed CHD patients which the resulted of internal consistency reliability by Cronbach's alpha coefficient was .95 for the overall HRQOL, and .96, .94, .95, .91 for each of domain respectively. This instrument would be assessing health related quality of life for both groups in two times of pretest at second day of admission and posttest at eight weeks after discharge.

2. Intervention instrument

Comprehensive Cardiac Nursing Program (CCNP) is multi-components nursing intervention which promoted self-management in first diagnosed coronary heart disease patients on the basis of cognitive and behavioral techniques with supporting from family member by using self-monitoring, self-evaluation, and self-reinforcement processes based on self-management model of Kanfer and Goelick-Buy (1991).

The CCNP was emphasized in patient’s risky health behavior management that composed of diet management, physical activities and exercise management, smoking cessation management, and stress management based on Ornish’s heart disease reversal program and existing knowledge. Accordingly, risky health behavior related to increase cardiac risk factors are responsible for the development and acceleration of coronary atherosclerosis plaque that cause the changing of health status with resulting in health problems.

Researcher would describe about CCNP in 3 topics of 1. The comprehensive cardiac nursing program development. 2. The comprehensive cardiac nursing program trial and 3. The comprehensive cardiac nursing program modification as following:

1. The CCNP development

CCNP was developed based on self-management model (Kanfer and Goelick-Buy, 1991), Ornish's heart disease reversal program (Ornish, 1990), and existing knowledge as shown in chapter 2. CCNP would provide the knowledge and practice skills to manage the risky health behaviors that significantly related to improve health status with improve health related quality of life. In addition, the participants have at least 1 family member cooperated in all 5 sessions as supporter and assistant for conducting self-management. This program was flexible and allowed for individual implementation.

This program composed of 4 phases that covered the 5 sessions of implementation within 8 weeks after admission from first diagnosed CHD. The 4 phases of this program were 1) the risky health behavior assessment phase, 2) the preparation for the coronary heart disease patients' self-management phase, 3) the practice for the coronary heart disease patients' self-management phase, and 4) the evaluation for the coronary heart disease patients' self-management phase as describe following:

1) The risky health behavior assessment phase. The aims of this phase were to develop relationships and promote participant to accept the changing of health status; to assess the risky health behaviors and previous knowledge and experiences about CHD. This phase is an important step for nurse to understand the participant's condition.

The activities in this phase were cooperated in the first session of this program that began with the assessment and identified the personal data that related to the cardiac risk factors and risky health behaviors by a research assistant. Intervener made the good relationship with the participant and their family member, and encouraged the participant to accept the changing health which ready to participate in this program. In addition, the most important in this phase, the participants were encouraged for self-confidence in their coronary heart disease patients' self-management competency (Appendix F).

2) The preparation for the coronary heart disease patients' self-management phase. The aims of this phase were composed of 1) to enhance the participant's knowledge and management skill for managing health behaviors related to cardiac risk factor reduction, 2) to help the participants to set their short and long term goal for managing their risky health behaviors, 3) to promote the participants for correct monitoring, and recording their health behaviors in the diary heart book, and 4) to enhance the participants self-confidence and self reinforcement for their goal accomplishment and use the effective management of their health status and health behavior to live with serious progressive life threatening chronic disease as CHD.

The activities in this phase were cooperated in the second and third sessions of this program which implemented in the second and third day of admission about 45-60 minutes respectively at medical ward. The major activity of this phase were emphasized about providing significant information for enhancing participant's knowledge, understanding, and management about CHD, cardiac risk factor, and risky health behaviors management by using the coronary heart disease booklet in the second day of admission. The participants were also trained and practiced the skills

for their risky health behavior management by using the DVD about risky health behavior management of CHD patients in the third day of admission. Intervener not only help participants to set their short and long term goal for managing health behaviors related to cardiac risk factor reduction but also enhance the participants self-confidence and self reinforcement for accomplishment their goal. In addition, intervener support the participants for correct monitoring, recording, and evaluating their risky health behaviors management in the diary heart book and support the participant to readiness for managing their risky health behaviors when discharge from the hospital.

3) The practice for the coronary heart disease patients' self-management phase. The aims of this phase were composed of 1) to promote the participants for continuous managing their risky health behavior related to cardiac risk factors reduction in everyday life, 2) to monitor, evaluate, and reinforcement their risky health behavior management, and 3) to support the participants analyze, evaluate, and reorganize their goals, plans, and strategies of health behavior management based on their self-monitoring and self-evaluation from the diary heart book for necessary adjustment to achieve their goals.

The activities in this phase were cooperated in the thirds and forth sessions of this program. The third session was implemented at participant's home at two weeks after hospital discharge about 60 minutes. The activities were included; monitor and evaluate short term goals of risky health behavior management and support the participant to adjusts/reorganizes his/her health behavior management related to data from the diary heart book for necessary adjustment to increase the desired health behaviors. In addition, the activities were also supported and reinforced

the participant for using appropriate self-reinforcement related to his/her goal achievement, for using the technique of self-instruction from the utilization resource of booklet, and supporting from family member. Moreover, the intervener was also supported the participant's management of cognition, affective, and behavior with induce change of health status and improve HRQOL.

The activities of forth session was used the telephone call at 4 and 6 weeks after discharge from the hospital. These phone calls would limit to 10-15 minutes. The topic for talking were reinforce, monitor, and evaluate the participants for maintaining risky health behavior management and regular recording in the dairy heart book. In addition the intervener reinforce the participant for using effective decision making to correct their health problems, and support the participant's management of cognition, affective, and behavior with induce change of health status and improve HRQOL.

4) The evaluation for the coronary heart disease patients' self-management phase. The aims of this phase were to evaluate the participants meet the standard criteria of this program, to evaluate the short and long term achievement of the participants, and to evaluate the effective of the program.

The activities in this phase were cooperated in the second, thirds, and fifth sessions of this program. The activities for evaluating the participants meet the standard criteria of this program were composed of 1) participants have to present their knowledge about CHD through the test by using "coronary heart disease's knowledge questionnaire" in the second session, and 2) the participants have to take the test about "coronary heart disease's self-management questionnaire" in the third session. The participants have to meet the standard criteria 75% both the first and

second parts of The Coronary Heart Disease Patient's Management Questionnaire as mentioned previously. They have to meet the standard criteria before continuing into the next session. If he/she cannot meet the standard criteria, the implementation in each session will be take place again.

The activities to evaluate the short and long term goal achievement of the participants were composed of the intervener, the participants, and the family member evaluate and discuss the achievement of short and long tem goal from the action plan in the diary heart book at the third session and fifth session or the second and eight week after discharge respectively.

The activities to evaluate the effective of the program were composed of the research assistants obtained the significant data by using the medical record, personal data and the health behaviors related to cardiac risk factors questionnaire, and the Quality of life Index-Cardiac version IV in the last session of the program at out-patient department 8 weeks after discharge. All 4 phases of this program can be described as the figure 2.

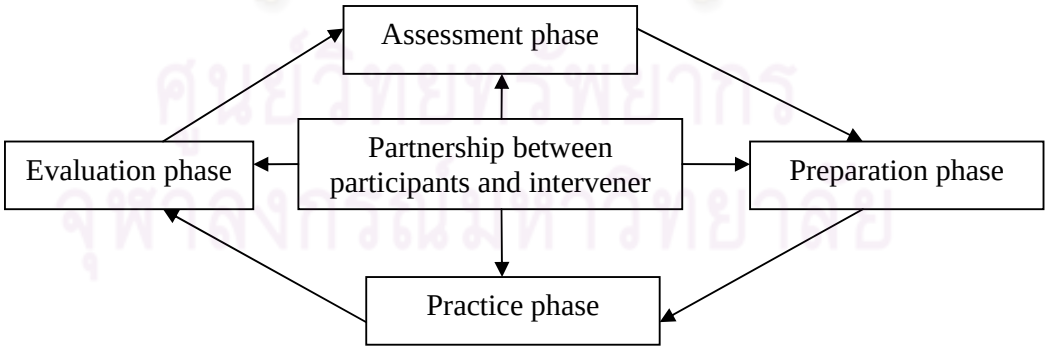

Figure 4 The processes of the comprehensive cardiac nursing program

The media of this program were composed of DVD, booklet, and the diary heart book for enforcing the knowledge and practice skills for CHD management with enhance HRQOL. DVD would describe and demonstrate about risky health behaviors management related to cardiac risk factors reduction. Coronary Heart Disease Booklet would provide information about cardiac risk factors, clinical course and patho-physiology of disease, cognitive affective and behavioral factors affected to worse progressive of CHD, management, complication, and risky health behaviors management. The diary heart book was used for self-monitoring and self-evaluation about risky health behavior management.

2) The CCNP trial

This CCNP was examined the content validity, media of the program by eight experts: four nurse instructors in self-management, quality of life, CHD, and cardiac rehabilitation; two cardiovascular clinical nurse specialists; one physician who experts in coronary heart disease and cardiac rehabilitation; and an expert in mass media communication. After that, researcher reviewed the content and media of the program according to the suggestions from experts before field testing. Field testing would be implemented at secondary health care setting for test the feasibility and the problem for CCNP implementation.

The revised CCNP was try-out on 5 first diagnosed CHD patients who were met the eligibilities criteria as the participants in this study. The objectives for conducting the field testing were 1) determine the feasibility of the propose study, 2) to identify the problems of comprehensive cardiac nursing program implementation, and 3) to examine the validity and reliability of the research instrument. After that, researcher reported any problems to advisors. The result of try-out of CCNP indicated

that the researcher should combine some related contents because there were too many content to follow in some sessions.

3) The CCNP modification

The suggestions from the experts and the result from try-out indicated that the researcher should modify and abbreviate the content in the CHD booklet and DVD due to there were too much content, and extending more time in some session. In addition, the CCNP implementation should move the second session from the day before discharge to the third day of admission due to most of the patients didn't receive the plan for discharge day.

3. Experimental monitoring instruments

The experimental monitoring instruments for this study comprised of The Coronary Heart Disease Patient's Management Questionnaire, and The diary heart book.

3.1 The Coronary Heart Disease Patient's Management Questionnaire was developed by researcher based on extensive review literature. The aim of this instrument was to examine the knowledge about coronary heart disease and the competency for coronary heat disease's management of the participants. This questionnaire was divided into 2 parts. The first part was coronary heart disease's knowledge questionnaire and the second part was coronary heart disease's self-management questionnaire (Appendix C).

The coronary heart disease's knowledge questionnaire covered and related to the significant information providing to participant in the experimental group. This questionnaire composed of 45 items. The scale was classified into 2 choices; right (1 score) and wrong (0 score) that participants have to choose only one

choice in each item. The aim of this instrument was to evaluate the participant's knowledge and understanding about coronary heart disease, patho-physiology, health behaviors related to cardiac risk factors, and risky health behaviors management related to reduce cardiac risk factors. The total scores were ranged 0-45. The higher score was meant the participants have more knowledge and more understanding about coronary heart disease than lower score. This part was used after finished the second session of the comprehensive cardiac nursing program at the third day of admission.

The coronary heart disease's self-management questionnaire also covered and related to the significant information providing to participant, however difference from the previous one which emphasized about self-management in 5 domains. This part asked about self-management of coronary heart disease patients; general management (10 items), diet management (10 items), physical activity and exercise management (10 items), smoking cessation management (7 items), and stress management (8 items). All questions composed of 45 items. The scale was rated into five likert scales; cannot conduct, fair conducting, moderate conducting, many conducting, and the most conducting. The participants have to choose only one scale in each item that mostly directed to them. The total scores were ranged 45-180. The high score was meant that the participants can conduct the self-management of their coronary heart disease.

This questionnaire was used for monitoring research intervention in the experimental group by testing the participant to meet the standard criteria of CCNP about 75% in each part. The first part was used at the third day of admission after completed the first and second sessions of CCNP. The second part was used two weeks after discharge at participant's home. The reason for use the second part at this

time due to the participants must have experienced about coronary heart disease management in the real life situation before answer this questionnaire.

Researcher tested the psychometric property by using content validity and internal consistency reliability. This questionnaire was brought to 7 experts that composed of 4 nurse instructors, 2 advanced practitioner nurses, and 1 physician. The content validity would be validated by those experts which resulted of CVI=.85, and CVI =.71 for the first and second parts. The internal consistency reliability of this instrument was tested in 30 first diagnosed CHD patients by using Kuder-Richardson-20 (KR-20) for the first part was .85, and by Cronbach's alpha coefficient was .85 for the second part.

3.2 The diary heart book was developed by researcher for the participants in the experimental group to monitor and record the achievement of participant in short and long term goal through risky health behaviors management that related to self-monitoring and self-evaluation processes of self-management model (Appendix E). The participants have to monitor their daily self-management while staying home. Researcher brought the diary heart book to 7 experts as mention previously. In addition, researcher corrected the diary heart book as the suggestion from experts for the easiest, most convenience and practical for participants that might be lay person or low education. After that, researcher tried out in 3 first diagnosed CHD patients who completed elementary school, and re-correct it again.

The checklist in diary heart book was divided into 4 parts in each week including diet management, physical activity and exercise management, smoking cessation management, and stress management. The participants have to check their management in each part every week that related to their goals setting. In each part,

participant have to check for setting their goal, activities, results about the frequency and competency of conducting, and name of recorder. The participants were asked to monitor themselves according to the checklist in this book for 8 weeks after recruitment to the program (the first 2 weeks for short-term goal, and the next 6 weeks for long term goal). Researcher collected this diary heart book at 2 weeks, and 8 weeks related to the time's goal setting. In addition, to ensure that each participant kept trace with this procedure designed of this study, researcher used telephone call for remind and encourage them at 4 and 6 weeks. No participants failed to follow this monitoring procedure

Experimental procedure

Researcher divided and explained the experimental procedures into 3 phases including preparation, implementation, and evaluation.

1. Preparation phase

1.1 Instrument preparation

The manual of the CCNP, media of this program, and all instruments were developed by researcher and were proved the content validity by 7 experts.

1.2 Research and research assistant preparation

Researcher who had the experiences for caring the patients in the medical department was trained and practiced about risky health behaviors management that used in this program. The training and practice were included; cooking the very low fat and salt diet; taking the stress management with Yoga, deep breathing, and meditation; taking the moderate exercise by walking 30 minutes everyday.

Two research assistants in this study were the volunteer register nurses at medical ward who have the experiences for caring the patients in the medical ward for 8 year and 12 year form Singburi and Angthong hospital respectively. Both of them had the certificated in caring coronary heart disease patients and have been taken action role as the ACS nurse's manager in each hospital. The research assistance's role was obtaining the pretest and posttest data in both the experimental and control groups. Prior to the implementation of this study, both research assistants were described, discussed about all of the instruments those were used for the correct understanding and obtaining the significant data for pretest and posttest. In addition, both of them were trained and practiced to use those instruments until have the accurately and reliability prior to the implementation as well.

1.3 Place preparation

Researcher informed the director of nursing, and collaborated with the head nurse and staff nurse of medical ward and medical out-patients department of both hospitals. The objectives, procedures, and the approximately length of time for data collection were informed. In addition, researcher also requested and prepared the living room or meeting room for the first and second sessions of the CCNP implementation.

2. Implementation phase

2.1 Procedures in the control group

The participants in the control group were completed the questionnaire for pretest including the personal data, health behaviors related to cardiac risk factors, and HRQOL at the second day of admission. They were received the usual care during the 8weeks since admission from first diagnosed CHD. The usual care was

meant the conventional health information that was given by nurse, physician, and other health care provider for caring first diagnosed CHD patients at the medical ward and out-patient department. The usual care is also including information that nurse gives during bed site nursing care, gives leaflet about CHD and lifestyle modification, provides health education before discharge home, telephone calls after discharge from the hospital, gives information to group of patients by using pamphlet while patients wait to see the physician at in/out patients department. The participants were complete the QLI-cardiac version IV for posttest at 8 weeks after discharge, and were got the CHD booklet when they followed up at medical out-patients department.

2.2 Procedures in the experimental group

The participants in the experimental group were received the usual care and the CCNP that composed of four phases and covered the five sessions of implementation within 8 weeks after admission from first diagnosed CHD as present in the diagram of timetable of contract with subjects (Appendix G) and the CCNP manual (Appendix F and H). All activities of this program were implemented into five sessions that can be concluded as following:

Session 1; the first session was implemented in medical ward at the second day of admission about 45 minutes. The aims were to develop relationships and promote participant to accept the changing of health status; to assess the previous knowledge and experiences about CHD; and to support participant for understanding about CHD, cardiac risk factors, and CHD self management. The major activity of this phase was emphasized about providing significant information for enhancing participant’s knowledge, understanding, and management about CHD, cardiac risk

factor, and risky health behaviors management by using the coronary heart disease booklet.

Session 2; the second session was implemented in the same place at the third day of admission about 60 minutes. Intervener prepared and supported the participants for gain more knowledge, understanding, and practicing the skills for his/her risky health behavior management by using the DVD about risky health behavior management of CHD patients. Intervener not only help participant to set their short and long term goal for managing health behaviors related to cardiac risk factor reduction but also enhance the participants self-confidence and self reinforcement for accomplishment their goal. The participants have to present their knowledge about CHD through the test by using “coronary heart disease’s knowledge questionnaire” the first part of The Coronary Heart Disease Patient’s Management Questionnaire to meet the standard criteria (75%) of this program before continuing into the next session. If he/she cannot pass the standard criteria, the implementation of this session will be take place again at the forth day of admission. In addition, intervener support participant for correct monitoring, recording, and evaluating his/her risky health behaviors management in the diary heart book and support participant for continuing risky health behaviors management in everyday life.

Session 3; this session will implement at participant’s home at two weeks after discharge about 60 minutes. The aims of this phase are to promote participant continuing health behaviors management related to cardiac risk factors reduction in everyday life. The activities of this session were included; monitor and evaluate short term goals of risky health behavior management and support the participant to adjusts/reorganizes his/her health behavior management related to data

from the diary heart book for necessary adjustment to increase the desired health behaviors. In addition, the activities were also supported and reinforced the participant for using appropriate self-reinforcement related to his/her goal achievement, for using the technique of self-instruction from the utilization resource of booklet, and supporting from family member. Moreover, the intervener was also supported the participant's management of cognition, affective, and behavior with induce change of health status and improve HRQOL. In this session, the participant has to take the test about "coronary heat disease's self-management questionnaire" the second part of The Coronary Heart Disease Patient's Management Questionnaire and has to pass the standard criteria 75% of the program before continuing into the next session. If he/she cannot meet the standard criteria, the implementation of this session will be take place again at tomorrow.

Session 4; Intervener will use the telephone call at 4 and 6 weeks after discharge from the hospital. These phone calls will limit to 10-15 minutes. The aims are to reinforce, monitor, and evaluate participant for maintaining risky health behavior management and regular recording in the dairy heart book, to reinforce participant for using effective decision making to correct his/her health problems, and to support participant's management of cognition, affective, and behavior with induce change of health status and improve HRQOL.

Session 5; the last session will implement at out-patient department at 8 weeks after discharge from the hospital. The aims are to evaluate the achievement of participant's long term goal, to reinforce the participant for continuing risky health behavior management in daily life, to answer the questions from the participant and

support the participant for giving information to the others, and to terminate the program. The CCNP process was summarized in the table 1.

Table 1 The summarization of the comprehensive cardiac nursing program process

Session & Time	Place	Content	Method
Session 1 45 minutes (The second day of admission)	A medical ward	- Develop relationship - Introduce the program - Assess the previous knowledge and experiences about CHD - Provide information about CHD, cardiac risk factors, and CHD patients' health behaviors management	- Individual learning with family cooperation by using CHD booklet
Session 2 60 minutes (The third day of admission)	A medical ward	- Enhance knowledge and management skill by training and practicing for risky health behaviors management - Use appropriate self-reinforcement related to his/her goal achievement - Set his/her short and long term goal for risky health behaviors management - Evaluate CHD knowledge through the test by using "The Coronary Heart Disease Patient's Management Questionnaire	- Individual training with supporting from family member by using DVD for CHD risky health behavior management
Session 3 60 minutes (Two weeks after discharge)	Participant's home	- Self-monitoring, self-evaluation, self-reinforcement for risky health behaviors management - Evaluate the short term goal of the participant for risky health behaviors management - Evaluate CHD management through the test by using "The Coronary Heart Disease Patient's Management Questionnaire	- Manage their risky health behaviors management with supporting from family member - Daily monitor and record risky health behaviors management in the diary heart book

Session & Time	Place	Content	Method
		- Analyzes, evaluates, reframes expectation, and reorganize goals, plans, and strategies of health behavior management for necessary adjustment to increase the desired health behaviors	
Session 4 10-15 minutes (4 and 6 week after discharge)	Participant's home and Intervener's office	- Monitor, evaluate, and reinforce for risky health behaviors management - Promote the continuing risky health behaviors management with supporting from family member	- Telephone call for monitoring, evaluation, and reinforcement - Daily monitor and record risky health behaviors management in the diary heart book
Session 5 45 minutes (8 weeks after discharge)	Out-patients department	- Evaluate the long term goal of the participant for risky health behaviors management - Promote the continuing risky health behaviors management with supporting from family member - Terminate the program	- Daily monitor and record risky health behaviors management in the diary heart book

3. Evaluation phase

The final phase is the evaluation the effect of CCNP that included the outcome evaluation and terminate the program. This phase was conducted at medical out-patient department 8 weeks after discharge aimed to evaluate the long term goal of participant in experimental group by intervener and to obtain the data about HRQOL for posttest both groups by a research assistant. This phase need the interactive between the participants in the experimental groups and intervener about the evaluation of their long term goal accomplishment. The participants in the control group were also received the coronary heart disease booklet in the day of posttest. All

the participants were reinforced to continue risky health behaviors management. In addition, researcher thank you all the participants for their cooperating in this study.

Data collection

In this study, the time spent in the program was 8 weeks. However, the participants in this study could not recruited into the study at the same time due to the participants were first diagnosed CHD patients at different point of time. Therefore, the participants in both groups were could not start to participate in this study at the same time. Consequence, the length of time for this study was 6 months. The procedures for data collection were described as following:

1. Researcher brought the letter from faculty of nursing, Chulalongkorn University to the director of Singburi and Angthong hospitals for the ethical approval and data collection permission.

2. After that, this study was proved the ethical from the ethical committee of Singburi and Angthong hospitals, and permission for the data collection.

3. When the patients who met the eligibility criteria admitted at medical ward, research assistant approached and explained the objectives, procedures, and the protection of human right of the participants. Once they decided to participate in this study, they have to sign the consent form.

4. Researcher randomly assigned the participants to the experimental or control group by using four block randomization technique.

5. The obtaining data for pretest was conducted by a research assistant at the second day of admission at medical ward which included the personal data, health behaviors related to cardiac risk factors, and HRQOL. Blinding between the participants and research assistants who collected the pretest and posttest data would

be used for controlling confounding factors, decrease bias, and increase validity of the outcome.

6. The participants in the control group received the usual care, while participants in the experimental group received the usual care and CCNP from intervener. Intervener was mean a researcher who providing CCNP both hospitals.

7. The obtaining data for pretest was conducted by a research assistant at 8 weeks after discharge when they followed up at medical out-patient department.

8. Research checked the questionnaire and cleaned the data prior to data analysis.

The research study procedures were concluded on the table 2.

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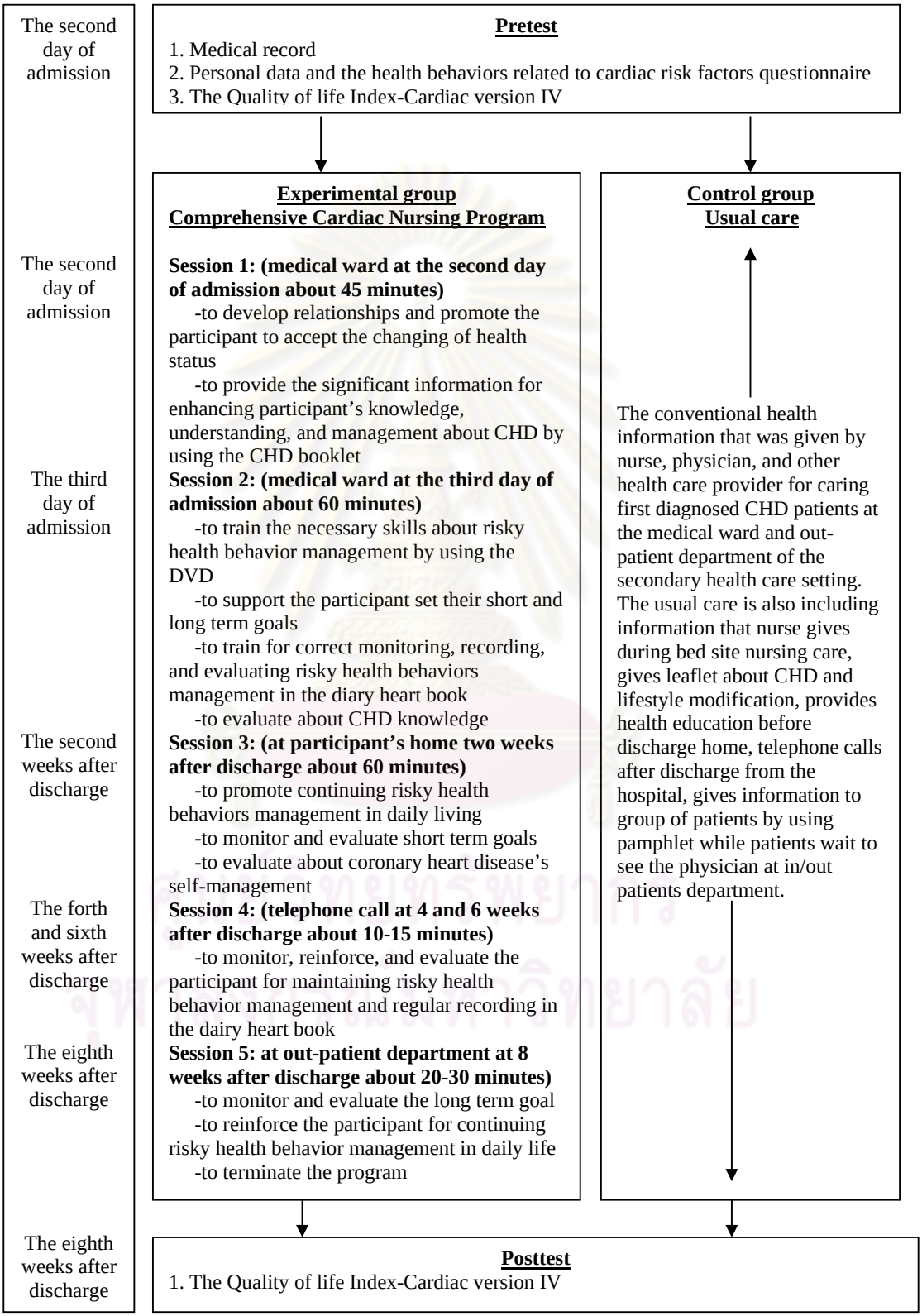
Table 2 Research study procedures



Protection of Rights of Human Subjects

This study was proved the ethical and permission for data collection from the ethical committee both Singburi and Angthong hospitals before collecting the data. The potential participants who met the eligibility criteria were approached and informed in non technical term about the purpose, procedure, potential benefits and risks of the study, and right to confidentiality and withdrawal by research-assistant. This procedure was conducted in order to seek their approval to participate in the study. Once the participant agrees to participate in this study, he/she would sign a consent form (Appendix P).

In addition, he/she could refuse to answer any specific questions which make them feel uncomfortable, and he/she could terminate their participation at any time. They were assured that their willingness to participate in this study had no implications for the health care services that they were received. The decision to discontinue participating in this study was not affect their relationship with health care providers or their access to any services available at the hospital. Confidentiality of data collection was ensured both during data collection and after collection.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 13 was used to analyze the data. The assigned study number for each participant was used for data entry to ensure the anonymity of subjects. The statistical significance for all analysis was set satisfy significance at the $p<.05$ level.

Descriptive statistics were use to describe the personal data, medical laboratory investigation, risky health behaviors, CHD self-management, and HRQOL scores with frequency, range, mean, standard deviation, and percentage. The personal

characteristics and the personal data that related to the cardiac risk factors of both groups would compare by chi-square test and independent t-test. In addition, independent t-test was performed to determine the differences in HRQOL scores between control and experimental group, and pair t-test was performed to compare the differences in HRQOL scores between pretest and posttest in each group (Appendix K, L).

Prior to use the t-test statistic, the assumption testing was proved and represented that 1) each of the two populations being compared should follow a normal distribution. This can be tested using a normality test, such as the Shapiro-Wilk or Kolmogorov–Smirnov test, or it can be assessed graphically using a normal quantile plot. The data must be sampled from a normally distributed population. 2) The two populations must have equal variances or homogeneity of variances. If the sample sizes in the two groups being compared are roughly equal, Student's original *t*-test is highly robust to the presence of unequal variances. Welch's t-test is insensitive to equality of the variances regardless of whether the sample sizes are similar, and 3) Each score must be independent of all other scores (Berns and Grove, 2005).

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CHAPTER IV

RESEARCH RESULTS

The purpose of the study was to develop and examine the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed CHD patients. The sample was composed of 74 first diagnosed CHD patients at Singburi and Aungthong hospitals. All the participants met the eligibility criteria were randomly assigned to either experimental or control group by using four blocked randomization which resulting 37 participants in each group. Participants in the experimental group received the usual care and the CCNP, whereas participants in the control group received the usual care from health care professions. The personal data and health behaviors related to cardiac risk factors, and HRQOL were collected at the second day of admission for pretest. The HRQOL data was collected at 8 weeks after discharge for posttest. The obtained data were analyzed to answer the research question. The research findings were presented in three parts.

Part 1: The descriptive analysis of the personal characteristics and health behaviors of the samples

Part 2: The results of hypotheses testing

Part 1: The descriptive analysis of the personal characteristics and health behaviors of the samples

The personal characteristic of the samples in the experimental and control group were presented. The 74 first diagnosed CHD were male 56.76%, female 43.24%. The age was ranged from 35 to 90 years which mean 61.89, SD 13.85. Most of them were married 72.97%, completed the elementary school 74.32%. The

occupations were various which full time worked 41.89%, and 35.14% unemployed. The income was mostly less than 5,000 bath/month 41.89%. The economic status was enough 52.70%. Eighty two % of them were not having family history of CHD. Most of caregivers were their family member 98.65%. The type of diagnosed were included 3 types; unstable angina, NSTEMI, and NSTEMI. Most of diagnosed were NSTEMI 55.41%. The EKG that related to coronary heart disease was included ST-depress, ST-elevate, Invert-T wave, and non specific EKG which were mostly occurred of 2 types 31.08%. The BMI less than 25 kg/m2 were mostly 64.86%.

The symptoms were included chest pain, dyspnea, stomach pain, sweating, nausea/vomiting, refer pain, and fainting. Most of them were have chest pain, dyspnea, and refer pain symptoms 93.24%, 55.41%, and 29.73% respectively. The comorbidities were hypertension, diabetes mellitus, dyslipidemia, no history, and others. Most of them were have hypertension 70.27%. Only 24.32% didn't have any history of comorbidities.

The Chi-square statistical was used to test the difference of personal characteristics at pre-test. The result showed that all of those personal characteristics were not significantly difference between experimental and control groups as shown on the table 3.

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Table 3 Personal characteristic of the experimental and control groups

Personal characteristics	Experimental group N=37	Control group N=37	χ^2	df	p-value
	Number (%)	Number (%)			
Gender			.00	1	1.00
Male	21(56.76)	21(56.76)			
Female	16(43.24)	16(43.24)			
Age group (Year)			.16	5	1.00
31-40	3(8.11)	3(8.11)			
41-50	5(13.51)	5(13.51)			
51-60	10(27.03)	10(27.03)			
61-70	8(21.62)	8(21.62)			
71-80	8(21.62)	8(21.62)			
81-90	3(8.11)	3(8.11)			
	Mean = 61.24	Mean = 62.54			
	SD = 14.50	SD = 13.33			
Marital Status			.32	3	.95
Single	1(2.70)	1(2.70)			
Married	28(75.68)	26(70.27)			
Divorced	7(18.92)	9(24.32)			
Widowed	1(2.70)	1(2.70)			
Education			2.71	3	.44
Elementary	28(75.68)	27(72.97)			
Secondary	5(13.51)	8(21.62)			
Diploma	2(5.41)	-			
Bachelor	2(5.41)	2(5.41)			
Occupation			12.43	7	.09
Unemployed	15(40.54)	11(29.73)			
Day laborer	8(21.62)	4(10.81)			
Agriculturist	4(10.81)	7(18.92)			
Merchant	2(5.41)	10(27.03)			
Government	2(5.41)	1(2.70)			
Government Pension	1(2.70)	2(5.41)			

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Table 3 Personal characteristic of the experimental and control groups (Cont')

Personal characteristics	Experimental group N=37	Control group N=37	χ^2	df	p-value
	Number (%)	Number (%)			
Employee	5(13.51)	1(2.70)			
Priest	1(2.70)	1(2.70)			
Working status			.24	2	.89
Full time	15(40.54)	16(43.24)			
Part time	6(16.22)	7(18.92)			
Unemployed	16(43.24)	14(37.84)			
Income (Bath/month)			8.10	5	.15
<5,000	16(43.24)	15(40.54)			
5,000-10,000	11(29.73)	17(45.95)			
10,001-15,000	8(21.62)	1(2.70)			
15,001-20,000	1(2.70)	2(5.41)			
20,001-25,000	-	1(2.70)			
>25,000	1(2.70)	1(2.70)			
Economic status			2.66	1	.10
Enough	23(62.16)	16(43.24)			
Not enough	14(37.84)	21(56.76)			
Family history			.09	1	.76
No family history	30(81.08)	31(83.78)			
Family history	7(18.92)	6(16.23)			
Caregiver			9.59	8	.295
Spouse	14(37.84)	8(21.62)			
Offspring	13(35.14)	12(32.43)			
Spouse & offspring	6(16.22)	13(35.14)			
Parent	1(2.70)	-			
Sibling	2(5.41)	1(2.70)			
Spouse & sibling	1(2.70)	-			
Nephew	-	1(2.70)			
Parent & offspring	-	1(2.70)			
Out of family	-	1(2.70)			

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Table 3 Personal characteristic of the experimental and control groups (Cont')

Personal characteristics	Experimental group N=37 Number (%)	Control group N=37 Number (%)	χ^2	df	p-value
Diagnosed			.30	2	.86
Unstable Angina	9(24.32)	11(29.73)			
NSTEMI	21(56.76)	20(54.05)			
STEMI	7(18.92)	6(16.22)			
EKG			4.79	5	.44
ST depress	8(21.62)	4(10.81)			
ST elevate	6(16.22)	5(13.51)			
Non specific	11(29.73)	8(21.62)			
T- invert	2(5.41)	2(5.41)			
2 types	9(24.32)	14(37.84)			
3 types	1(2.70)	4(10.81)			
BMI (kg/m2)			.95	1	.33
≤ 25	26(70.27)	22(59.46)			
> 25	11(29.73)	15(40.54)			
Symptoms			12.81	6	.05
Chest pain	35(94.59)	34(91.89)			
Dyspnea	24(64.86)	17(45.95)			
Refer pain	7(18.92)	15(40.54)			
Sweating	6(16.22)	11(29.73)			
Stomach pain	9(24.32)	5(13.51)			
Nausea/Vomiting	3(8.11)	7(18.92)			
Fainting	-	5(13.51)			
Comorbidity			3.05	4	.55
Hypertension	27(72.97)	25(67.57)			
Dyslipidemia	15(40.54)	12(32.43)			
Diabetes Mellitus	9(24.32)	12(32.43)			
No History	8(21.62)	10(27.03)			
Others	11(29.73)	5(13.51)			

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The personal data and health behaviors that related to the cardiac risk factors of the samples in both experimental and control groups were studied. The health behaviors were reported in this study including diet, stress, personality, physical activity and exercise, and smoking behaviors. The researcher would like to explain the health behaviors into 2 parts; the first part was composed of diet, stress, and personality that were examined by independent t-test, and the last part was composed of exercise, physical activity, and smoking behaviors that were examined by χ^2

The result showed that the mean age of the samples in both groups were 61.89 years, SD 13.85, weight mean 60.97 kg and SD 10.91, height mean 1.61 m and SD 0.07. The BMI mean 23.38 kg/m2 which were in the normal level. The mean of systolic and diastolic were 141.14 and 82.35 mmHg respectively. The mean of cholesterol, triglyceride, HDL, LDL, and FBS investigation were all abnormal level including 245.91 mg/dl, 212.81 mg/dl, 38.97 mg/dl, 176.49 mg/dl, and 130.24 mg% respectively.

The diet and stress behaviors have 50 total scores in each behavior. The higher scores showed the good health behaviors. On the other hand, the personality has 10 total scores; the higher scores showed the relation with type A personality. The results of health behaviors in both the experimental and control groups showed that they had no good health behaviors in diet and stress, and had no good personality.

The result showed that all of those personal data and health behaviors were not significantly difference between experimental and control groups at pretest. It represented the homogeneity of the participants in both experimental and control groups as showed on the table 4.

Table 4 Personal data and health behaviors that related to the cardiac risk factors between experimental and control groups at pretest

Personal data (units)	**Experimental Group** (N=37)		**Control Group** (N=37)		**t**	**df**	***p*-value**
	Mean	SD	Mean	SD			
Age (years)	61.24	14.50	62.54	13.33	-0.40	72	.69
Weight (kg)	59.96	11.80	61.97	9.99	-0.79	72	.43
BMI (m2)	22.81	4.19	23.96	3.25	-1.39	72	.17
Systolic (mmHg)	140.50	21.14	142.22	22.03	-0.43	72	.67
Diastolic (mmHg)	80.73	11.96	83.97	15.03	-1.03	68.55	.31
Cholesterol (mg/dl)	252.11	48.82	239.70	42.39	1.17	72	.25
Triglyceride(mg/dl)	222.54	85.18	203.08	65.06	1.10	72	.27
HDL (mg/dl)	40.46	9.73	37.49	8.19	0.14	72	.16
LDL (mg/dl)	177.89	43.30	176.49	48.45	0.13	72	.90
FBS (mg%)	137.35	63.88	123.14	40.39	1.14	60.82	.26
Diet behaviors	24.81	4.77	23.68	4.08	1.10	72	.28
Stress behaviors	24.24	4.83	25.27	3.77	0.97	67.99	.34
Personality	5.62	3.51	6.41	3.08	-1.02	72	.31

The exercise, physical activity, and smoking behaviors that related to cardiac risk factors were also examined in this study. The exercise behaviors were set at least 30 minutes 3 times a week based on the standard criteria of the American Heart Association, and Thai Heart Association. In addition, physical activity was classified into two groups; active and inactive. For this study, active physical activity was meant the continuing of the bodily movement for house working or job working at least 30 minutes 3 times a week too. Smoking behaviors were classified into two types; smoking, and second-hand smoking. The chi-square statistical was used to examine the different of the exercise, physical activity, and smoking behaviors' between the

experimental and control groups at pretest. The result showed that the exercise, physical activity, and smoking behaviors were not different between experimental and control groups at pretest as showed on the table 5.

Table 5 The exercise, physical activity, and smoking behaviors between the experimental and control groups at pretest

Health behaviors	Experimental group N=37 Number (%)	Control group N=37 Number (%)	χ^2	df	*p-value*
Exercise behaviors			1.915	2	.384
No exercise	26(70.27)	31(83.78)			
Exercise (not meet the standard criteria)	9(24.32)	5(13.51)			
Exercise (meet the standard criteria)	2(5.41)	1(2.70)			
House working			1.088	2	.580
No house working	9(24.32)	7(18.92)			
Inactive	19(51.35)	17(45.95)			
Active	9(24.32)	13(35.14)			
Job working			4.167	2	.124
No working	16(43.24)	13(35.14)			
Inactive	3(8.11)	-			
Active	18(48.65)	24(64.86)			
Smoking			1.431	2	.489
Smoking	9(24.32)	7(18.92)			
Not smoking	19(51.35)	24(64.86)			
Had ever smoked	9(24.32)	6(16.22)			
Second hand smoking			1.510	1	.219
Second hand smoking	27(72.97)	22(59.46)			
Non second hand smoking	10(27.03)	15(40.54)			

Part 2: The results of hypothesis testing

Hypothesis: First diagnosed CHD patients who participated in comprehensive cardiac nursing program would have significantly higher HRQOL scores than patients who receive usual care.

The HRQOL of the samples in the experimental and control group at pretest and posttest were presented. The HRQOL was reported into the overall and each of 4 domains including health and functioning domain, social and economic domain, psychological and spiritual domain, and family domain. To answer the hypothesis, independent t-test statistical was performed to test the difference of HRQOL between the experimental and control groups. In addition, pair t-test statistical was also performed to test the difference between before and after receiving comprehensive cardiac nursing program in the experimental group and before and after receiving usual care in the control group.

The result showed that the overall HRQOL, health and functioning domain, social and economic domain, psychological and spiritual domain, and family domain scores were not significantly different between experimental and control groups at pretest. The overall and all of those domains were significantly difference between experimental and control groups at posttest ($p<.05$). The mean scores of the overall and each domain of HRQOL in the experimental group were higher than the means scores of the control group as shown on the table 6.

Table 6 The comparison of the overall and each domain of health related quality of life between the experimental and control groups at pretest and posttest

HRQOL	Experimental group N=37 Mean (SD)	Control group N=37 Mean (SD)	t	df	*p-value*
Pretest					
Overall HRQOL	18.24(2.75)	18.22(2.05)	0.036	72	.972
Health and functioning domain	16.46(2.97)	16.30(2.42)	0.254	72	.800
Social and economic domain	22.40(2.98)	22.57(2.37)	-0.274	72	.785
Psychological/spiritual domain	17.05(3.98)	17.35(2.55)	-0.378	61.29	.707
Family domain	18.57(3.33)	18.22(1.82)	0.563	55.79	.575
Posttest					
Overall HRQOL	23.21(1.89)	18.37(1.68)	11.637	72	.000
Health and functioning domain	22.37(1.74)	16.39(2.03)	13.619	72	.000
Social and economic domain	26.83(1.97)	23.01(1.79)	8.732	72	.000
Psychological/spiritual domain	21.18(3.48)	17.53(2.80)	4.970	72	.000
Family domain	22.29(2.28)	18.07(1.56)	9.315	63.75	.000

In addition, the pair t-test was used to examine the difference of the overall and each domain of HRQOL. The result show that the overall HRQOL, health and functioning domain, social and economic domain, psychological and spiritual domain, and family domain were significantly difference between pretest and posttest only the experimental group ($p<.05$) as shown on the table 7.

Table 7 The comparison of the overall and each dimension of health related quality of life between pretest and posttest of the experimental and control groups

Health related quality of life	Pretest	Posttest	Mean Difference	Std. Error Mean	t	df	*p*-value
	Mean(SD)	Mean(SD)					
Experimental group (N=37)							
Overall HRQOL	18.24(2.75)	23.21(1.89)	4.97	0.28	17.583	36	.000
Health and functioning domain	16.46(2.97)	22.37(1.74)	5.91	0.33	17.765	36	.000
Social and economic domain	22.40(2.98)	26.83(1.97)	4.43	0.36	12.205	36	.000
Psychological/spiritual domain	17.05(3.98)	21.18(3.48)	4.13	0.38	10.789	36	.000
Family domain	18.57(3.33)	22.29(2.28)	3.72	0.39	9.567	36	.000
Control group (N=37)							
Overall HRQOL	18.22(2.05)	18.37(1.68)	0.15	0.10	1.486	36	.146
Health and functioning domain	16.30(2.42)	16.39(2.03)	0.09	0.13	0.710	36	.482
Social and economic domain	22.57(2.37)	23.01(1.79)	0.44	0.25	1.803	36	.080
Psychological/spiritual domain	17.35(2.55)	17.53(2.80)	0.18	.11	1.709	36	.096
Family domain	18.22(1.82)	18.07(1.56)	0.15	.16	-0.973	36	.337

The participants who received the comprehensive cardiac nursing program in the experimental group has significantly higher of HRQOL score than the participants who received usual care in the control group. Then, the comprehensive cardiac nursing program could make the significantly higher scores of the overall, health and functioning domain, social and economic domain, psychological and spiritual domain,

and family domain of HRQOL scores in first diagnosed coronary heart disease patients.

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CHAPTER V

DISCUSSION IMPLICATION AND RECOMMENDATION

This chapter presents the summary of the study, a discussion of the research finding is the results from the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients. In addition, the limitation of the study, implications for nursing, and recommendations for future research were described.

Summary of the study

This study was a randomized control trial two groups' pretest-posttest research aiming to evaluate the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients. The patients who met the eligibilities criteria; first diagnosed CHD who received the medical treatment, lacked of complication that barrier to cooperate in the study, and classified into class III or IV based on Canadian Cardiovascular Society Classification system were included to the study. The sample composed of 74 first diagnosed coronary heart disease patients who received the medical treatment at Singburi and Aungthong hospitals which were randomly assigned to either experimental or control group by using the four blocked randomization technique. Both settings were having the incidence rate of coronary heart disease in the first and second rank of Thailand that could be representative of first diagnosed CHD patients.

The patients who participated in the experimental group received the usual care and the comprehensive cardiac nursing program, whereas the participant in the

control group received the usual care from the health care professions. The comprehensive cardiac nursing program had been implemented into 5 sessions which included at least one family member all sessions. The first and second sessions were implemented at a medical ward in the second and third day of admission which provided the significant information about coronary heart disease and practiced the necessary skills for his/her risky health behavior management. In addition, the participant had to set his/her short and long term goals for achieving their risky health behavior management. The third session had been implemented at participant's home to promote the participant for continuing risky health behaviors management related to cardiac risk factors reduction in everyday life, and to monitor and evaluate the short term goal.

The forth session was implemented by using the telephone call at 4 and 6 weeks after discharge from the hospital to reinforce, monitor, and evaluate the participant for maintaining their risky health behavior management and regular recording in the dairy heart book. The last session would implement at out-patient department at 8 weeks after discharge from the hospital. The aims were to evaluate the achievement of participant's long term goal, to reinforce the participant for continuing risky health behavior management in daily life. The participants in the experimental group met the standard criteria of the program which pass 75% of the Coronary Heart Disease Patient's Management Questionnaire about CHD knowledge and CHD risky health's management in the second and third sessions.

The personal data, health behaviors related to cardiac risk factors, and HRQOL were collected at the second day of admission for pretest, and HRQOL were also collected at 8 weeks after discharge for posttest. Descriptive, chi-square,

independent t-test, and pair t-test statistics were used to analyze the data for answering the research question. The results were discussed according to the research hypothesis.

Discussion

The sample in this study was composed of 74 first diagnosed coronary heart disease patients. Most of them were male, the mean of age was 61.89 years which congruence with the studies of Aem-Orn Saengsiri (2003); Chulaporn Changperk (2001), and Thiataporn Keinwong (2004). Christensen and Kockrow (2003), Sadowsky (2001), and Stanley (1999) were also mentioned that the proportion of a risk to be CHD patient between male and female is 4:1, and the persons with age more than 40 years old have a risk in developing CHD.

The risk of being CHD patients of females was lower than male because females have estrogen that could decreased LDL and increased HDL to prevent the accumulation of atherosclerosis. Conversely, after menopause, females had decreased estrogen level which faced two to three time greater risk of developing CHD than their prior to menopause (Christensen and Kockrow, 2003; Sadowsky, 2001).

When the people got older, their blood vessels were thickening, diminished elastic fiber, accumulated of fat, and increased the plaque that significant to atherosclerosis. All of these factors decreased the blood flow to the heart then, the blood supply to their heart were not enough. All as mention previously was the reason supported that first diagnosed coronary heart disease patient in this study was occurred in the people who got older. Otherwise, the youngest participant in this study was 35 years old that related to the prevalence of CHD in Thailand was found in the group of people aged over 30 (The Institute of Health Care Research Thailand, 2000).

17.57% of the participants were have a family history of CHD that contrast to the literature review (Luckmann and Sorensen, 1993; Moulton and Staropoli, 1995) but congruence with the studies of Chulaporn Changperk (2001) and Thitaporn Keinwong (2004). They found that 23% of first diagnosed CHD patients (Chulaporn Changperk, 2001), and 18.80% of coronary heart disease patients in Thailand (Thitaporn Keinwong, 2004) had a family history of CHD.

The majority of them was married 72.97%, completed the elementary school 74.32%, unemployed 35.14%, income were less than 5,000 baths/month which congruence with the studies of Chulaporn Changperk (2001) and Thitaporn Keinwong (2004). The economic status was enough 52.70% and was not enough 47.30%. Most of caregivers were within their family 98.65%. The personal characteristics were reported as previously due to the literatures review showed that all the personal data have a constant effect to HRQOL in CHD patients (Beck, 2001; Bengtsson, 2001; Christian et al., 2007; Heller et al., 1997; Hofer et al., 2005; Lukkarinen, 2005).

The personal data that related to being diagnosed coronary heart disease were studied as following. The type of diagnosed were included NSTEMI 55.41%, unstable angina 27.3%, and STEMI 17.57% respectively. Most of them have two types of abnormal EKG that included ST-depress, ST-elevate, Invert T-wave, and not specific abnormal EKG. The symptoms that mostly brought them to the hospital were chest pain, dyspnea, refer pain, and sweating which showed 93.24%, 55.41%, 29.73% and 22.97% respectively. These symptoms that mostly occurred in first diagnosed coronary heart disease patients were congruence with the study of Chulaporn Changperk (2001).

In addition, the personal data that related to cardiac risk factors were also described. Most of the sample (75.68%) in this study has comorbidity. 35.14% of participants had 2 comorbidities, and 24.32% of participants had 3 comobidities. Only 24.30% of the participants have no history of any comorbidity. The most prevalence of comorbidity was hypertension (70.27%), dyslipidemia (36.49%), and diabetes mellitus (28.38%) respectively. All of these data were congruence with the study of Chulaporn Changperk (2001) who reported that the majority of first diagnosed CHD had a chronic disease at least one disease (86.7%). The most common chronic disease was hypertension (33.3%), hypertension with other chronic disease (56.7%), dyslipidemia (16.7%), dyslipidemia with other chronic disease (40.0%). In addition, it had also similarly to the previous of western studies (Aldana et al., 2006; Frattaroli et al., 2008).

Hypertension is the most common of cardiac risk factor. The hypertensive patients have an estimate five to six times risk being CHD patients (Chanpen Chuprapawan, 2000). The mean, median, and mode of systolic and diastolic blood pressures of the total participant at pretest were similarly among them about 140 and 80 mmHg. These showed within normal level due to most of the participants perceived them as hypertensive patients and were previously treated with medical treatment. The diabetes patients have an estimate two to four times risk being CHD patients (Reusch, 2002). At pretest, the participants in the experimental group have the abnormal level of fasting blood sugar and higher level of fasting blood sugar than the control group.

All the participants both experimental and control groups have the abnormal level of all lipid profile including cholesterol, triglyceride, HDL, LDL. Plasma level

of total cholesterol, LDL, and triglyceride were all positively associated with incidence of CHD (Foxton, 2004). Abnormal cholesterol levels were major risk factors for CHD and were responsible for at least 46% of all new case of CHD (Foxton, 2004). For each 10 mg/dl increased in serum cholesterol, the cardiovascular-death rate increased 9% (AHA, 2001).

All of the comorbidities were significantly related to each others including hypertension, hyperglycemia, low HDL levels, high triglyceride levels, and clotting abnormalities. Controlling the blood pressure, plasma glucose level, and lipid profile were related to decrease the cardiac risk factor which improved the endothelium function and blood clotting, and decreased the plaque and atherosclerosis. All those comorbidities were the cardiac risk factor for developing of CHD. In addition, there were also a well-established risk factor for the development and progression of coronary heart disease, and others cerebrovascular disease. Most of first diagnosed CHD patients in this study have multiple cardiac risk factors, and then they were developed to be the first diagnosed CHD patients.

Even though, the body mass index of the participants were mostly less than 25 kg/m2 64.86%, and mean of the body mass index both the experimental and control group were stated in the normal level. However it's showed the high normal level. Obesity has been identified as a significant independent predictor of cardiovascular disease. In addition, obesity is a highly prevalent condition among patients with CHD by likely mediated through its association with insulin resistance, hypertension, and hyperlipidemia (Ades et al., 2003; Hanna and Wenger, 2005).

Additionally, the health behaviors that related to the cardiac risk factors of the samples in the experimental and control group were studied. The health behaviors

were examined in this study including diet, stress, personality, exercise, physical activity, and smoking behaviors. The participants in both experimental and control groups had the low level of diet and stress behaviors scores (24.24 and 25.76 respectively from the total 50 scores) which mean they were not good health behaviors in diet and stress. They were usually have a food containing with the highest cholesterol, saturated fat, and sodium that significantly related to increased blood pressure, which has an indirect occurrence and progression of CHD. Diet can influence cholesterol level, blood pressure, tolerance for glucose, likelihood to be overweight, and even how blood coagulates (Foxton, 2004; Jamroozike, 2004).

The mean of personality scores were 6.01 from the total 10 scores which represented that they were not have a good personality. Most of them usually have the stress behaviors and type A personality that could make coronary arteries constriction, increase blood clot speed and lipid release, increase secretion of stress hormones such as catecholamine, testosterone, and cortisol into the bloodstream that activate CHD via arterial lumen injury with high heart rate, and elevate blood pressure (Thompson and Bowman, 1998).

58.11% of participant in this study were not smoking. 21.62% of the participants were smoking, and 20.27 had ever smoked but already quitted. The people who smoked were significantly 3.24 times of being myocardial infarction patients than non smoker (Goldenberg et al., 2003; Hathai Chitanont, 2002). In addition, the secondhand smoke was also linked to cardiovascular disease (Christensen and Kockrow, 2003; Jamroozike, 2004; Sadowsky, 2001). 66.22% of participants in this study were being the secondhand smoke.

Both of smoking and secondhand smoke have deleterious effects on the cardiovascular system which increased plaque formation and platelet adhesives, elevated catecholamine level, decreased HDL, decreased serum oxygen-caring capacity, and impaired arterial vasodilatation (Hanna and Wenger, 2005; Jairath, 1999). All of these influences in developing atherosclerosis, which can increase blood pressure, hasten the occurrence of artery obstruction, chest pain, and cardiac arrest (Christensen and Kockrow, 2003; Jamroozike, 2004; Sadowsky, 2001).

The participant were exercised only 4.05%. Most of the participants were not exercise 77.03% and exercise was not meeting the standard criteria 18.92%. In addition, the physical activity from house working were mostly represented the inactive 70.27%, and the physical activity from job working were presented the inactive 43.24%. All of these data congruence with the previous studies of Linchong Pothipan (1995), Ratja Srisuthep (1999), Sirirat Ngaosomkul (2000), and Yuwaret Saiseesub (2000). The people who have the physical inactivity and sedentary lifestyle increased the risk of acute myocardial infarction 1.9 times higher than active lifestyle (Linchong Pothipan, 1995). Most CHD patients rarely exercise and did not understand the usefulness of exercise. The exercise behaviors in CHD patients were at a fair level (Ratja Srisuthep, 1999; Sirirat Ngaosomkul, 2000; and Yuwaret Saiseesub, 2000).

Most of the participants in this study have the multiple cardiac risk factors. The multiple cardiac risk factors have been demonstrated to be associated with endothelial dysfunction. Elevated total cholesterol and LDL levels, increased mental stress, hyperglycemia, and smoking have all been shown to have negative effects on coronary endothelium (Levine et al., 1995). In the presence of coronary risk factors,

normal vasodilatation does not occur, and this abnormality predicts adverse coronary events (Schachinger et al., 2000).

The overall HRQOL of the participants both experimental and control groups at pretest were stated at 18.23 (the total scores were 30) that lower than the previous studies of Aem-Orn Saengsiri, (2003) and Kusuma Khuwatsamrit (1996). It meant that first diagnosed CHD patients have the lower HRQOL. The result of this study were congruence with the study of Bengtsson et al. (2004); Boini et al. (2005); Brink et al. (2002, 2006); Chantana Lortajakul (2006); Christian (2007); Kristofferzon et al. (2005); and Siriporn Leangkobkij (2001). In addition, the lowest scores were the health and functioning domain (16.38) followed by psychological and spiritual domain (17.20), family domain (18.39), and social and economic domain (22.49) respectively.

The reasons for low level of the overall and each of HRQOL domains were discussed. During the time of pretest, all the participants were admitted at a medical ward due to they had many symptoms including chest pain, dyspnea, sweating, fainting, stomach pain, nausea and vomiting, lack of energy, and difficulty to performing physical activity in daily living that congruence with previous studies (Johansson, Stromberg, and Swahn, 2004; McSweeney, et al., 2001). Most of first diagnosed CHD had experienced more than one symptom that related to the study of Chulaporn Changperk (2001). Stewart et al (2000) also stated that the symptoms were remaining for a time longer than one year. In addition, the result of this study was congruence with the studies of Bengtsson et al., (2001); Benzer et al., (2003); Heller et al., (1997); Mcgillion et al., (2004); and Oldridge et al., (1998). They found that CHD patients who have angina pectoris or other cardiac symptoms had reported lower

HRQOL. All of their symptoms, health problems and physical functioning were significantly affected to the overall, and health and functioning domain of HRQOL (Bengtsson, 2001; Benzer et al., 2003; Brink et al., 2002; 2005; Christian et al., 2007; Hofer et al., 2005; and Oldridge et al., 1998). Moreover, from this study also found that most of the participants have the numerous of cardiac risk factors that affected to the overall HRQOL as reported by Heller et al (1997); Jamieson et al (2002); and Oldridge et al (1998). Then, the overall, and health and functioning domain of HRQOL were stated at low level as mentioned previously.

The psychological and spiritual domain was the second rank of the lowest scores of HRQOL. Most of the participant said that they felt almost died when they have chest pain and they were feeling like a rebirth when the chest pain was relief. After their life-threatening illness, most of first diagnosed CHD patients usually have negative emotional state that congruence with various studies including hostility (Drory et al., 2002), fear (Stewart et al., 2000), anxiety (Fauerbach et al., 2005; Frasure-Smith and Lesperance, 2005), depression (Shen et al., 2006), uncertainty (Eastwood, 2004), and worries in many issues of everyday life (Daly et al., 2000; Lukkarinen and Kyngas, 2003). Anxiety and depression in CHD have been conducted on the patients immediately after disease occurrence and which remains for a long time in chronic course of disease (Drory et al., 2002; Heller et al., 1997; Hofer et al., 2005; Kristofferzon et al., 2005; Shen et al., 2006).

In addition, when patients and family faced with the crisis of illness that impeding death, they look to other for spiritual support (Chuanpit Tumnong, 1998). First diagnosed CHD patients also stated that life would never be the same again, they

expressed grief over their lost health, and their heart was no longer healthy (Eva Bergman and BerteroÈ, 2001; Jaarsma et al., 1995).

The low score of psychological and spiritual domain of HRQOL in this study congruence with the numerous previous studies. All psychological problems of CHD patients have been reported to be significant factors influencing to low HRQOL (Beck et al., 2001; Christian et al., 2007; Dixon et al., 2000; Jamieson et al., 2002; Hofer et al., 2005; Mayou et al., 2000; Oldridge et al., 1998; and Shen et al., 2006).

The family domain scores were being the third rank of the lowest scores of HRQOL that congruence with the studies of Dixon et al (2000) and Jaarsma et al (1995). They mentioned that most CHD patients have experiences in interpersonal problems relating to friends and family, convalescence, and vocational problems. Vitchaya Pariyawatee (1999) found that male CHD patients withdrew themselves from family activities. Similarly to female patients, they exhibited poor relationship with spouse and other family members (Fleury et al., 1995). In addition, being first diagnosed CHD patient not only caused distress in patients but also affected to partners from the onset of disease, and remained over the whole course of recovery (Moser and Dracup, 2005). Patient's well being was, therefore, highly linked to the well being of the partner in a close relationship (Karner et al., 2005).

The social and economic domain of HRQOL was the highest score due to they still have to admit in the hospital when assessed at the pretest. They might be not feeling bad situation on social and economic domain because they didn't stay in the real life situation. They took the role as only patients' role in a short time period during admitted 4-7 days of admission that might not be affected to their working role or family role. Most of the participants (41.89%) have the income less than 5,000

bath/month. However, the perception of them found that their economic status were enough that related to the study of Lukkarinen, (2005) and Lukkarinen and Hentinen (1998). They revealed that the high socioeconomic status was correlated with high HRQOL.

Furthermore, all of the participant didn't have to pay the health care cost due to everyone has the health insurance from the government that might not affect to the majority of their financial. The result about the social and economic scores was conversely with the study of Chuanpit Tumnong (1998). She mentioned that the economic problems were occurred in CHD patients especially whose money could not reimbursed. All as mentions was the reason supported the highest score in social and economic domain of HRQOL.

The development of comprehensive cardiac nursing program

Comprehensive Cardiac Nursing Program (CCNP) was developed based on self-management model, Ornish's heart disease reversal program, and existing knowledge. The reason for selecting self-management model due to self-management is widely recognized as a necessary method for maintaining and improving patient's health behavior and health status (Dongbo et al., 2003). It reflects the holistic care and also reflects the ultimately changes in participant's health related quality of life (Tobin et al., 1986).

The CCNP used the self-management model as the activities of the participant to learn the significant information and practice the necessary skills for managing their risky health behaviors with the collaboration with the intervener. When the changing health behaviors was occurred, it was significantly associated with improvement in healthful

behaviors, improvement in health status, and also resulted in better health related quality of life (Ferrans et al., 2005).

The activities of the participants who cooperated in CCNP were developed based on the processes of self-management model (Kanfer and Goelick-Buy, 1991) including self-monitoring, self-evaluation, and self-reinforcement. Self-management was defined as the cognitive process and learning from the past experience. The participants learned and practiced the skills necessary to carry on an active and emotionally satisfying life (Lorig, 1993) that requires attentive monitoring of one's behavioral changes based on receiving information. The obtained significant CHD information and training for risky health behaviors management aimed to gain more understanding and confidence to manage their behaviors lead to accomplish their good health behaviors.

Most of them have numerous cardiac risk factors related to their risky health behaviors. Then, each of participants identified their risky health behaviors problems and set the priority of their short and long term goal to accomplish them. If they already have the good health behaviors in each of target health behaviors, they also have to increase more activities level for better health. The first week after discharge, the participants set the changing their first and second priorities of risky health behaviors management and add the third and forth priorities in the second weeks. The participant applied and tailored the risky health behavior management to fit their daily routine in natural settings at his/her home. Most of them set their first priority of their goal directed behaviors in physical activity and exercise management 43.20%, diet management 35.10%, smoking cessation management 18.90%, and stress management 2.7% (Appendix M).

The CCNP used the self-monitoring process as the initially continuous observation by him/herself. Self-monitoring is very useful and significant component of the self-management program as showed in CCNP and employed as an agent of behaviors changing. The self-monitoring of behavior directed to their goals was also fostered behavior change during the setting time period. Intervener and participants clearly discussed and specified the target behaviors to gain more understanding for self-monitoring. The participants have to monitor, record their risky health behaviors management in the diary heart book and compare with the given standard behaviors. The diary heart book was easily and simple to record for the participant which whom lay person by checking the specific activities related their goals that they would like to conduct and checking the establishing clear-cut criteria for achievement.

Self-monitoring which recording the diary heart book was the assignment of particular tasks served as the pivotal role as motivation to manage their risky health behaviors. In addition, researcher added the contracting additional techniques as the reinforcement to accomplish their goal by signing a contract in the diary heart book among the participant, family member, and intervener. The participant can repeat self-instructions by reviewing the coronary heart disease booklet at all times as a resource was designed to facilitate or maintain their risky health behavior management. Moreover, family member took action role as supporter, assistant, social support to reinforce them accomplish the behaviors directed goals of the participants. All of these activities of self-monitoring as mention previously promoted the successful the participant's risky health behavior management.

For the self-evaluation process, the participants compared their self-monitoring information obtained from the diary heart book and the person's standard

for the given behavior. The performance criteria or standards of the risky health behavior's management including that they have to eat the very low fat and salt diet everyday, take more physical activities and exercise at least 30 minutes 3 times a week, play a yoga, deep breathing, and meditation at least 30 minutes everyday, and quit smoking and distant from the secondhand smoking area everyday. If they accomplished in each behavior management that were set by them, they can increase more level of their goal.

The self-reinforcement processes were used for the cognitive and emotional reaction to the results of their self-evaluation. They can use positive self-administered reinforcement encompass both material reinforcement and verbal-symbolic self-reinforcement. Both of them have to relate the accomplishment of their goal and express their self-satisfaction. Several reinforcement stimuli should be equated for approximate value. In addition, the participants can use self-generated aversive consequences for controlling their behavior, self-punishment and negative self-reinforcement.

All of these processes based on self-management model of the CCNP aimed at control or decrease the impact of disease on health status, monitor and manage their illness, induce the desired behavior, promote self-control and maximum health, and improve health status, and promote health related quality of life.

The effective of comprehensive cardiac nursing program

The hypothesis: first diagnosed CHD patients who participated in comprehensive cardiac nursing program would have significantly higher HRQOL scores than patients who receive usual care. The result supported that this program

could help the first diagnosed CHD patients had significantly higher HRQOL scores ($p<.05$) due to several reasons;

1) Based on the self-management model, the participants have the sufficiently knowledgeable about coronary heart disease and their condition from the cognitive technique of this program. Everyone have to meet the standard criteria about 75% of the coronary heart disease' knowledge questionnaire that covered the significant knowledge and understanding about coronary heart disease, patho-physiology, health behaviors related to cardiac risk factors, and risky health behaviors management. The participants in the experimental group had the average of the coronary heart disease knowledge's score at 88.77%, maximum 100%, minimum 84.44% (Appendix K). Then, they can make informed decisions for managing their risky health behaviors, after receiving the significant and sufficiently knowledge.

2) First diagnosed CHD patients have to perform activities aimed at manage their risky health behaviors from the behavioral technique of this program. In this study, all the participants in the experimental group were trained and practiced about the activities of general, diet, physical activities and exercise, stress, and smoking cessation management of their condition when participated in the second sessions of the program. This session was related to self-management concept as a necessary method for maintaining and improving patients' health behavior and health status (Dongbo et al., 2003).

3) First diagnosed CHD patients have to apply the skills necessary for maintaining adequate physiological, psychological, and social functioning. All of them performed their risky health behaviors management in the real life situation during 2 week after discharge. Researcher examined the applying necessary skills of

the participants by evaluating the successful of their short-term goal and testing the minimum standard criteria about 75% of coronary heart disease's self-management questionnaire. The scores resulting from this questionnaire in the experimental group found that the average scores was 81.64%, the maximum scores was 88.33% the minimum scores was 75.00% (Appendix K). When they met both of criteria about the coronary heart disease's knowledge and coronary heart disease's self-management, it represented they could manage their risky health behaviors.

4) Efficacious of the CCNP based on self-management model encompassed the ability of the participants to perform and manage their risky health behavior by using self-monitoring, self-evaluation, and self-reinforcement processes (Kanfer, 1980; Kanfer and Goelick-Buy,1991). After receiving the CCNP, the participants in the experimental group showed the higher scores (Appendix K) in the knowledge about coronary heart disease (88.77%), and showed the higher scores in coronary heart disease management (81.64%) that congruence with the study of Barlow et al (2002); Newmann et al (2004); and Norris et al. (2001). They demonstrated that the chronic patients including coronary artery disease had improvements in knowledge, and self-management behaviors after received the self-management interventions.

5) The CCNP based on self-management model was promoted the participants to perceive the significant of risky health behavior management, accept their goals as desirable and motivated toward their achievement, and satisfy with this program and the helping from intervener. Especially, when intervener used the telephone call for reinforcement them to maintenance of the certain behavior for achieving self-management. All these activities were significantly affected to the cognitive,

behavioral and emotional responses necessary to maintain a satisfactory quality of life (Clark et al., 1991).

6) This program provided the participants with multi holistic components by mutual accompanied activities between participants and intervener. It has the multi-components of physiological, psychological, social and spiritual those significantly related to the domain of HRQOL and reflected the holistic nursing care. The result of this study was also related to the study of Bodenheimer et al. (2002); Fernandez et al. (2009); and Yusuf et al. (2004). They mentioned that self-management interventions support patients to live the best possible HRQOL with their chronic condition.

7) The participant set up the short and long term goals to manage their risky health behaviors related to diet, physical activity and exercise, stress, and smoking cessation. When the participants accomplished their goals, it significantly related to improve their HRQOL. Due to the literature review supported that smoking was correlated with low HRQOL (Heller et al., 1997; Jamieson et al., 2002; Lukkarinen and Hentinen, 1998; Oldridge et al., 1998), and exercise was associated with decrease CHD risk factors and increase HRQOL (Deaton and Namasivayam, 2004; Heller et al., 1997; Jamieson et al., 2002; Jeng and Braum, 1997). When the participants could manage their risky health behaviors, it's also associated with their health status improvement and further resulted in better HRQOL (Wood et al., 1998; Ferrans et al., 2005).

8) The family's members who cooperated in this program have been the most significant factor for HRQOL improvement of their first diagnosed CHD patients that congruence with the study of Shen et al (2006). They found that social support has been independently related to higher HRQOL. Social support

plays minor, but still significant roles as mediator variables to HRQOL (Hofer et al., 2005) and has been influenced on adjustment to CHD after cardiac event (Shen et al., 2006).

The result of this study was congruence with the previous studies as described following;

The participants in the experimental group who participated in CCNP had significantly higher HRQOL score than the participants who received the usual care. The resulted of this study had similarly to the result of the study of Nithiwadee Methajan (2001) who studied the cardiac rehabilitation program in CHD patients with undergone coronary angioplasty, the randomized control trials of Lewin (2002) who studied a self-management plan in newly diagnosed angina, Phasuk Keawcharenta (2003) who studied the cardiac rehabilitation program in CHD patients with received medication, Yu et al. (2004) who studied a short course cardiac rehabilitation program in patients with recent myocardial infarction or percutaneous coronary, Hofer et al (2006) who studied comprehensive cardiac rehabilitation in recent CHD patients, McGillion et al (2008) who studied the Chronic Angina Self- Management Program in chronic cardiac pain patients, and Aldana et al (2006); Frattaroli et al (2008); Koertge et al (2003); and Pischke et al (2006) who studied the Ornish's heart reversing program in coronary heart disease and myocardial infarction patients. All as mention previously emphasized that the cardiac rehabilitation program had shown the improvements of the HRQOL in coronary heart disease patients.

The result of this study was also related to the many studies that were conducted by meta-analysis method of Senivong na ayudthaya, (2004). She found that the cardiac rehabilitation had significantly improved the patient's health related

quality of life. In addition, the result of this study also related to the other studies about the self-management programs in asthma, diabetes, and arthritis patients (Newmann et al., 2004).

Then, the CCNP was a nursing intervention that emphasized in patient's risky health behavior management by using self-monitoring, self-evaluation, and self-reinforcement processes based on self-management model significantly improved on HRQOL in first diagnosed CHD patients.

Implications and recommendations

The findings of this study have provided significant information for nursing practice, nursing education, and nursing research.

The results of this study showed the effectiveness of the comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients. Then, this program should be add into the usual care as a nursing practice guideline due to it's can improve the quality of care and the patient's health related quality of life. The knowledge of this program should be use as some part of nursing curriculum in medical nursing, especially for nursing care at medical department. This program may adapt and research in another health setting or other group of patients, and could be used as an administration providing direction for setting policies.

The strength of the study

1. The media of the comprehensive cardiac nursing program (the diary heart book, coronary heart disease booklet, and DVD about health behavior management related to reduce cardiac risk factor of coronary heart disease patients) were necessary

and usefulness not only for the patients to gain more understanding about coronary heart disease and review their risky health behavior management, but also for nursing profession to provide the significant information to the patients.

2. The comprehensive cardiac nursing program were not complicated, then every nursing profession can use after self directed reading the manual.

The limitation of the study

1. The implementation of comprehensive cardiac nursing program was the time consuming, however it's interesting and challenging to apply in the clinical setting.

2. This program was implemented in the secondary health care setting, central region of Thailand. It might be limitation for generalization to others.

Future research

1. It would be more useful if future research examine the long term effects of the comprehensive cardiac nursing program.

2. This study should be replicated with separate setting between the experimental and control group for preventing the contamination of the intervention.

3. The self-management interventions like comprehensive cardiac nursing program can be performed in other chronic illness.

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ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

APPENDICES

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix A

Medical Record

(แบบบันทึกทางการรักษาพยาบาล)

ศูนย์วิทยทรัพยากร
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แบบบันทึกทางการรักษาพยาบาล

ชื่อ- นามสกุลผู้ป่วย……..

อายุ……..……..เลขที่ภายนอก ……เลขที่ภายใน……

ที่อยู่……

เบอร์โทรศัพท์……..

การวินิจฉัยโรค……วันที่วินิจฉัย ……

ชื่อโรงพยาบาล…….

Medical and Laboratory investigation	Pretest Date…	Posttest Date…	Pretest result		Posttest result	
			Normal	Abnormal	Normal	Abnormal
Weight (Kg)			-------	---------	-------	---------
Height (Cm)			-------	---------	-------	---------
BMI(cm/m2)						
Systolic/Diastolic blood pressure (mmHg)						
First symptoms from chief complaint			-------	---------	-------	---------
EKG						
Troponin T						
Total cholesterol (mg/dl)						
Triglyceride (mg/dl)						
High density lipoprotein (HDL) (mg/dl)						
Low density lipoprotein (LDL) (mg/dl)						
Fasting Blood Sugar (mg%)						
HbA1C%						
Angiotensin-Converting Enzyme Inhibitor (ACEI)			-------	-------	-------	-------
Aspirin or other anticoagulant			-------	-------	-------	-------
Beta adrenergic blocking agents			-------	-------	-------	-------
Calcium –channel blockers			-------	-------	-------	-------
Vasodilators			-------	-------	-------	-------
Recorder name						

หมายเหตุ พยาบาลเป็นผู้บันทึก

Appendix B

Personal data and the health behaviors related to cardiac risk factors questionnaire

(แบบสอบถามข้อมูลส่วนบุคคลและ
พฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

แบบสอบถามข้อมูลส่วนบุคคลและ
พฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ

ชื่อ-นามสกุลผู้ป่วย……..
ชื่อ-นามสกุลญาติที่เข้าร่วมโครงการ……เกี่ยวข้องเป็น……..
ที่อยู่ผู้ป่วย……
เบอร์โทรศัพท์……..…
โรงพยาบาล…….

****

ส่วนที่ 1 ข้อมูลส่วนบุคคล

คำอธิบาย แบบสอบถามข้อมูลส่วนบุคคลใช้เพื่อประเมินข้อมูลพื้นฐานที่มีผลกระทบต่อการเกิดโรคหลอดเลือดหัวใจและคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดหัวใจจำนวนทั้งสิ้น 12 ข้อ

คำชี้แจง: โปรดใส่เครื่องหมาย □ ลงในช่อง □ ที่ตรงกับตัวท่านมากที่สุดและระบุข้อมูลในช่องว่าง

1. อายุ……ปี
2. เพศ □ชาย □ หญิง
3. สถานภาพสมรส □คู่ □โสด □ หม้าย □หย่า/แยกกันอยู่ □ อื่น ๆ ……
4. ศาสนา □ พุทธ □คริสต์ □ อิสลาม □ อื่น ๆ ……..
5. การศึกษา □ประถม □มัธยม □ อนุปริญญา □ ปริญญาตรี □ อื่น ๆ …….
6. อาชีพ □ รับจ้าง □เกษตรกรรม □ ค้าขาย □รับราชการ □ รัฐวิสาหกิจ □ งานบ้าน/ไม่ได้ประกอบอาชีพ □ อื่น……
7. สถานภาพการทำงาน □ทำเต็มเวลา □ทำไม่เต็มเวลา □ ไม่ได้ทำงาน
8. รายได้ต่อเดือน □ น้อยกว่า 5,000 บาท □ 5,000-10,000 บาท □ 10,001-15,000 บาท □ 15,001-20,000 บาท □ 20,001-25,000 บาท □ มากกว่า 25,000 บาท
9. เศรษฐกิจของครอบครัว □เพียงพอในการใช้จ่าย □ ไม่เพียงพอในการใช้จ่าย
10. ประวัติครอบครัวเจ็บป่วยด้วยโรคหลอดเลือดหัวใจ □ ไม่มี □ มี

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11. โรคประจำตัวอื่น ๆ ☐ความดันโลหิตสูง ☐ เบาหวาน
☐ ไขมันในเลือดสูง ☐ โรคไตวาย
☐ อื่น ๆ ..... ☐ ปฏิเสธการมีโรคประจำตัว

12. บุคคลสำคัญในชีวิตที่คอยดูแลช่วยเหลือเมื่อเจ็บป่วย.....

****

ส่วนที่ 2 พฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ

คำอธิบาย แบบสอบถามพฤติกรรมสุขภาพที่เกี่ยวกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้แก่ 1) การรับประทานอาหาร 2) การเผชิญความเครียด 3) บุคลิกภาพ 4) การออกกำลังกายและการมีกิจกรรม และ 5) การสูบบุหรี่ ใช้เพื่อประเมินพฤติกรรมเสี่ยงของผู้ป่วยที่ส่งผลกระทบต่อการเกิดโรคและความรุนแรงของโรค จำนวนทั้งสิ้น 46 ข้อ โปรดทำทุกข้อ

2.1 การรับประทานอาหาร

คำชี้แจง โปรดทำเครื่องหมาย √ ลงในช่องที่ตรงกับการปฏิบัติตนของท่านมากที่สุด

พฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ	**ไม่ปฏิบัติ** (0 ครั้ง/สัปดาห์)	**ปฏิบัติเป็นบางครั้ง** (1-2 ครั้ง/สัปดาห์)	**ปฏิบัติเป็นส่วนมาก** (3-5ครั้ง/สัปดาห์)	**ปฏิบัติเป็นประจำ** (6-7 ครั้ง/สัปดาห์)
1. รับประทานอาหารประเภท ข้าวมันไก่ ข้าวขาหมู ขาหมูพะโล้ หมูสามชั้น มันหมู กากหมู หนังหมู หนังไก่				
2. รับประทานอาหารประเภท ไข่แดง เครื่องในสัตว์ ปลาหมึก กุ้ง หอย				
.				
9. ดื่มกาแฟ โอวัลติน ชา ที่ใส่นมข้นหวาน ครีมเทียม หรือน้ำตาลมากกว่า 1 แก้วต่อวัน				
10. รับประทานผลไม้รสไม่หวานจัด				

2.2 การเผชิญความเครียด

คำชี้แจง โปรดทำเครื่องหมาย **V** ลงในช่องที่ตรงกับการปฏิบัติตนของท่านมากที่สุด

พฤติกรรมสุขภาพ ที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ	**ไม่ปฏิบัติ** (0 ครั้ง/ สัปดาห์)	**ปฏิบัติเป็นบางครั้ง** (1-2 ครั้ง/ สัปดาห์)	**ปฏิบัติเป็นส่วนมาก** (3-5ครั้ง/ สัปดาห์)	**ปฏิบัติเป็นประจำ** (6-7 ครั้ง/ สัปดาห์)
1. นอนหลับติดต่อกันวันละ 6-8 ชั่วโมง				
2. ทำงานอดิเรกเพื่อผ่อนคลายความเครียด เช่นปลูกต้นไม้ ทำสวน เดินชมธรรมชาติ				
.				
9. เมื่อมีเรื่องไม่สบายใจท่านจะมีการเปลี่ยนแปลงการรับประทานอาหาร เช่น รับประทานมากกว่าปกติหรือน้อยกว่าปกติ				
10. เมื่อมีเรื่องไม่สบายใจท่านจะบ่นหรือระบายให้คนใกล้ชิดฟัง				

2.3 บุคลิกภาพ

คำชี้แจง โปรดทำเครื่องหมาย **v** ลงในช่องที่ตรงกับการปฏิบัติตนของท่านมากที่สุด

ลักษณะบุคลิกภาพ	**ใช่**	**ไม่ใช่**
1. ท่านมักทำงานหลายอย่างในเวลาเดียวกัน		
2. ท่านเป็นคนที่ชอบเอาชนะเสมอ		
3.		
9. ท่านชอบทำงานแข่งกับเวลา		
10. ท่านเป็นคนอารมณ์ร้อน หงุดหงิดง่าย		

2.4 การออกกำลังกาย

คำชี้แจง โปรดระบุประเภทของการออกกำลังกายและทำเครื่องหมาย **/** ลงในช่องที่ตรงกับการปฏิบัติตนของท่านมากที่สุด

ประเภทของการออกกำลังกาย	**ท่านออกกำลังกายด้วยวิธี**	**ระยะเวลาที่ออกกำลังกาย (นาที)**		**ความถี่ในการออกกำลังกาย (ครั้ง/สัปดาห์)**		
		<30	>30	<3	>3	ทุกวัน
1. ไม่ได้ออกกำลังกาย (ถ้าตอบข้อนี้ให้ข้ามไปตอบข้อ 3)	ระบุ…… …… ……					
2. ออกกำลังกาย						
2.1 ชนิดเบา เช่น เปตอง วิ่งเหยาะ ๆ เดิน ไทเก๊ก กายบริหาร รำไม้พลอง รำมวยจีน	ระบุ…… …… ……					
.						
.						
3. งานบ้านที่ทำเป็นประจำ	ระบุ…… …… ……					
4. ลักษณะงานอาชีพที่ทำประจำ	ระบุ…… …… ……					

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2.5 การสูบบุหรี่

คำชี้แจง โปรดทำเครื่องหมาย □ ลงในช่องที่ตรงกับการปฏิบัติตนของท่านมากที่สุด

1. ปัจจุบันท่านสูบบุหรี่หรือไม่

( ) สูบ ท่านสูบบุหรี่ตั้งแต่อายุ.....ปี รวมระยะเวลาการสูบบุหรี่.....ปี

( ) เคยสูบ แต่ปัจจุบันเลิกมาแล้ว.....ปี รวมระยะเวลาการสูบบุหรี่.....ปี

( ) ไม่สูบ (ข้ามไปตอบข้อ 2)

ก. จำนวนบุหรี่ที่ท่านสูบ

( ) น้อยกว่า 5 มวน/วัน ( ) 5-10 มวน/วัน

( ) 11-20 มวน/วัน ( ) มากกว่า 20 มวน/วัน

ข. ความบ่อยของการสูบบุหรี่

( ) 1 ครั้ง/เดือน ( ) 2-3 ครั้ง/เดือน

( ) 1-3 ครั้ง/สัปดาห์ ( ) 4-6 ครั้ง/สัปดาห์

( ) ทุกวัน

2. ท่านต้องอยู่บริเวณที่มีผู้สูบบุหรี่หรือควันบุหรี่หรือไม่

( ) อยู่ ( ) ไม่อยู่

ขอขอบคุณในความร่วมมือ

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Appendix C

The Coronary Heart Disease Patient's Management Questionnaire

(แบบสอบถามการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

แบบสอบถามการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ

ส่วนที่ 1 แบบสอบถามความรู้เกี่ยวกับโรคหลอดเลือดหัวใจ

คำอธิบาย แบบสอบถามความรู้เกี่ยวกับโรคหลอดเลือดหัวใจสร้างขึ้นเพื่อใช้กำกับติดตามประเมินความรู้ผู้ป่วยภายหลังได้รับคำแนะนำตามโปรแกรมการพยาบาลแบบรวบยอด

คำชี้แจง โปรดทำเครื่องหมาย / ลงในช่อง ใช่ หรือไม่ใช่ ที่ตรงกับความรู้เกี่ยวกับโรคหลอดเลือดหัวใจของท่านมากที่สุด จำนวนทั้งสิ้น 45 ข้อ โปรดทำทุกข้อ

ลำดับ	ข้อคำถาม	ใช่	ไม่ใช่
1	โรคหลอดเลือดหัวใจหมายถึงภาวะที่หลอดเลือดที่มาเลี้ยงหัวใจมีไขมันหรือลิ่มเลือดมาอุดตัน		
2	สาเหตุของการเกิดโรคหลอดเลือดหัวใจคือการมีไขมันในเลือดสูง ความดันโลหิตสูง เบาหวาน ความอ้วน และการสูบบุหรี่		
3	อายุที่เพิ่มมากขึ้นและประวัติคนในครอบครัวเป็นโรคหลอดเลือดหัวใจไม่สัมพันธ์กับการเกิดโรคหลอดเลือดหัวใจ		
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.			
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.			
43	การร่วมกิจกรรมกับสังคมและครอบครัว เช่น ร่วมงานบุญ ท่องเที่ยว เป็นสิ่งที่ผู้ป่วยโรคหลอดเลือดหัวใจควรหลีกเลี่ยง		
44	ผู้ป่วยโรคหลอดเลือดหัวใจควรปรึกษาปัญหาสุขภาพกับสมาชิกในครอบครัวหรือคนใกล้ชิด		
45	การช่วยเหลือบุคคลอื่นหรือสังคมเป็นสิ่งที่ผู้ป่วยโรคหลอดเลือดหัวใจควรทำถ้าสามารถทำได้		

ขอขอบคุณในความร่วมมือ

แบบสอบถามการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ

ส่วนที่ 2 แบบสอบถามความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ

คำอธิบาย แบบสอบถามความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ สร้างขึ้นเพื่อใช้กำกับติดตามประเมินความสามารถของผู้ป่วย ภายหลังฝึกทักษะการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ ประกอบด้วย การจัดการทั่วไปของผู้ป่วยโรคหลอดเลือดหัวใจ การจัดการด้านอาหาร การมีกิจกรรมและการออกกำลังกาย การงดสูบบุหรี่และการจัดการกับความเครียด ตามเนื้อหาของโปรแกรมการพยาบาลแบบรวบยอด

คำชี้แจง ท่านสามารถทำกิจกรรมดังต่อไปนี้ได้หรือไม่ โปรดทำเครื่องหมาย / ลงในช่องที่ตรงกับความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจของท่านมากที่สุด
จำนวนทั้งสิ้น 45 ข้อ

ข้อ	ความสามารถในการจัดการตนเอง เกี่ยวกับโรคหลอดเลือดหัวใจ	ทำไม่ได้	ทำได้เล็กน้อย	ทำได้ปานกลาง	ทำได้มาก	ทำได้มากที่สุด
การจัดการตนเองทั่วไป (10 ข้อ)						
1	หลีกเลี่ยงการดำเนินชีวิตที่เพิ่มปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ					
2	รับประทานยาตามที่แพทย์/พยาบาลแนะนำได้					
.						
.						
การจัดการด้านอาหาร (10 ข้อ)						
11	รับประทานอาหารโดยคำนึงถึงคุณค่าของอาหารมากกว่าความชอบ					
12	รับประทานอาหารพวก พืช ผัก ผลไม้ เพิ่มมากขึ้น					
.						
.						
การออกกำลังกาย (10 ข้อ)						
21	ออกกำลังกายแบบแอโรบิกแบบปานกลาง เช่น เดิน ขี่จักรยาน ว่ายน้ำ เต้นแอโรบิก วิ่งเหยาะ ๆ					

ข้อ	ความสามารถในการจัดการตนเอง เกี่ยวกับโรคหลอดเลือดหัวใจ	ทำไม่ได้	ทำได้เล็กน้อย	ทำได้ปานกลาง	ทำได้มาก	ทำได้มากที่สุด
	อย่างน้อย ครั้งละ 30 นาที					
22	ออกกำลังกายแบบแอโรบิกแบบปานกลาง อย่างน้อย 3 ครั้ง/สัปดาห์					
.						
.						
การจัดการด้านการงดสูบบุหรี่ (7 ข้อ)						
31	สร้างแรงจูงใจในการเลิกสูบบุหรี่ด้วยตนเอง					
32	วางแผนที่จะเลิกสูบบุหรี่ด้วยตนเองหรือเข้าร่วมโครงการเลิกสูบบุหรี่					
.						
.						
การจัดการกับความเครียด (8 ข้อ)						
38	สามารถยืดเหยียดกล้ามเนื้อตามที่แนะนำ					
39	หายใจโดยใช้กล้ามเนื้อหน้าท้องหรือหายใจแบบลึก					
.						
.						
44	เมื่อมีเรื่องไม่สบายใจท่านหลีกเลี่ยงที่จะรับประทานยาคลายเครียด					
45	ทำกิจกรรมผ่อนคลายความเครียดร่วมกับเพื่อนหรือสมาชิกในครอบครัว					

ขอขอบคุณในความร่วมมือ

Appendix D

Quality of Life Index-cardiac version IV

(ดัชนีคุณภาพชีวิตสำหรับผู้ป่วยโรคหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ดัชนีคุณภาพชีวิต

(Quality of Life Index Cardiac Version - IV)

จากหัวข้อแต่ละหัวข้อต่อไปนี้ โปรดพิจารณาเลือกคำตอบที่บ่งชี้ถึงระดับความสำคัญในชีวิตและระดับความพึงพอใจในชีวิตของท่านด้านต่าง ๆ คำตอบแต่ละข้อไม่มีความหมายว่าถูกหรือผิดอย่างแท้จริง หากคำตอบที่มีไม่ตรงกับความรู้สึกของท่านทีเดียว กรุณาเลือกคำตอบที่ใกล้เคียงกับระดับความสำคัญและระดับความพึงพอใจของท่านมากที่สุด และโปรดตอบให้ครบทุกข้อ จำนวนทั้งสิ้น 35 ข้อ คำตอบที่ได้ถือเป็นความลับ จะไม่มีการเปิดเผยข้อมูลของท่านเป็นรายบุคคล แต่จะมีการนำเสนอโดยภาพรวมเท่านั้น

1 หมายถึงไม่สำคัญต่อท่านเลย หรือไม่พึงพอใจอย่างมาก

2 หมายถึงไม่สำคัญต่อท่านปานกลาง หรือไม่พึงพอใจปานกลาง

3 หมายถึงไม่สำคัญต่อท่านเล็กน้อย หรือไม่พึงพอใจเล็กน้อย

4 หมายถึงสำคัญต่อท่านเล็กน้อย หรือพึงพอใจเล็กน้อย

5 หมายถึงสำคัญต่อท่านปานกลาง หรือพึงพอใจปานกลาง

6 หมายถึงสำคัญต่อท่านอย่างมาก หรือพึงพอใจอย่างมาก

คำถาม สิ่งต่อไปนี้มีความสำคัญต่อท่านมากน้อยเพียงใด และท่านมีความพึงพอใจในสิ่งต่อไปนี้มากน้อยเพียงใด

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ข้อ	รายการประเมิน	ระดับความสำคัญ						ระดับความถึงพอใจ					
		ไม่สำคัญ			สำคัญ			ไม่พึงพอใจ			พึงพอใจ		
		1 มาก	2 ปานกลาง	3 เล็กน้อย	4 เล็กน้อย	5 ปานกลาง	6 มาก	1 มาก	2 ปานกลาง	3 เล็กน้อย	4 เล็กน้อย	5 ปานกลาง	6 มาก
1	สุขภาพของท่าน												
2	การดูแลทางด้านสุขภาพที่ท่านได้รับอยู่												
3	ความรุนแรงของอาการเจ็บอกที่ท่านมีอยู่												
4	ความสามารถในการหายใจได้โดยไม่มีอาการเหนื่อยหอบ												
.													
.													
35	การเปลี่ยนแปลงในชีวิตที่จำเป็นเนื่องมาจากปัญหาเกี่ยวกับหัวใจ (เช่น การเปลี่ยนแปลงอาหาร กิจกรรมต่าง ๆ หรือการงดสูบบุหรี่)												

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ขอขอบคุณในความร่วมมือ

Appendix E

The Diary Heart Book

(สมุดบันทึกผู้ป่วยโรคหลอดเลือดหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

สมุดบันทึกคู่ใจ
ผู้ป่วยโรคหลอดเลือดหัวใจ

สำหรับผู้ป่วยในโครงการโปรแกรมการพยาบาลแบบรวบยอด

เพื่อพัฒนาคุณภาพชีวิตผู้ป่วยโรคหลอดเลือดหัวใจ

ชื่อ-นามสกุลผู้ป่วย.....

ชื่อ-นามสกุลพยาบาล.....

โรงพยาบาล.....

วัตถุประสงค์สมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจ

สมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจนี้ ใช้เพื่อให้ผู้ป่วยโรคหลอดเลือดหัวใจได้เขียนแผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของตนเองทั้งระยะสั้นและระยะยาว และใช้สำหรับบันทึก กำกับติดตาม และประเมินผลการจัดการพฤติกรรมสุขภาพของผู้ป่วยในโครงการโปรแกรมการพยาบาลบแบบรวบยอด เพื่อพัฒนาคุณภาพชีวิตผู้ป่วยโรคหลอดเลือดหัวใจ

ปัฐยาวัชร ปรากฏผล
นิสิตพยาบาลศาสตรดุษฎีบัณฑิต
คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

หมายเหตุ

ผู้ป่วยในกลุ่มทดลองทุกท่านจะได้รับสมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจที่มีแผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ จำนวน 8 สัปดาห์ สัปดาห์ละ 4 ด้าน ได้แก่ การจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการด้านความเครียด

แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ

ชื่อผู้ป่วย…….

เป้าหมายระยะสั้น.....

วัตถุประสงค์	ระยะเวลา	วิธีปฏิบัติ	ผลการประเมิน	ลงชื่อ ผู้ประเมิน
การจัดการด้านอาหาร	☐ สัปดาห์ ……..	☐ไม่รับประทานเนื้อสัตว์ติดมัน หนังและเครื่องในสัตว์ อาหารทะเล	☐ ไม่สามารถปฏิบัติได้ ☐ ปฏิบัติได้น้อยกว่า 50% ☐ ปฏิบัติได้มากกว่า 50% ☐ ปฏิบัติได้ทุกวิธีที่กำหนดไว้	
		☐ รับประทานอาหารโปรตีนจาก ไข่ขาว ถั่ว เต้าหู้ มากขึ้น		
		☐ รับประทานอาหารที่มีไขมันต่ำ		
		☐ หลีกเลี่ยงการรับประทานอาหารประเภททอดและผัด		
		☐ รับประทานผักและผลไม้เพิ่มมากขึ้น		
		☐ เลือกใช้น้ำมันพืชที่ไม่มีกรดไขมันอิ่มตัวและไม่มีไขมันชนิดทรานส์ในการประกอบอาหาร	☐ ปฏิบัติได้ทุกวันใน 1 สัปดาห์ ☐ ปฏิบัติได้ 5-6 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 3-4 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 1-2 วัน/ สัปดาห์	
		☐ ดื่ม ชา กาแฟ ไม่มากกว่า 1-2 แก้วต่อวัน		
		☐ ไม่รับประทานอาหารที่มีรสเค็ม		
		☐ รับประทานอาหารที่มีกากใยสูง		
		☐ ดื่มนมไขมันต่ำหรือนมพร่องมันเนย		

ลงชื่อผู้ป่วย……ลงชื่อสมาชิกครอบครัว……ลงชื่อพยาบาลผู้ดูแล……..

แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ

เป้าหมายระยะสั้น.....

วัตถุประสงค์	ระยะเวลา	วิธีปฏิบัติ	ผลการประเมิน	ลงชื่อ ผู้ประเมิน
การจัดการด้านการมีกิจกรรมและการออกกำลังกาย	☐ สัปดาห์ ……..	☐ ออกกำลังกายแบบแอโรบิก อย่างน้อย 30 นาที/วัน ด้วย วิธีการ……...	☐ ไม่สามารถปฏิบัติได้ ☐ ปฏิบัติได้น้อยกว่า 50% ☐ ปฏิบัติได้มากกว่า 50% ☐ ปฏิบัติได้ทุกวิธีที่กำหนดไว้	
		☐ มีการอบอุ่นร่างกายก่อนและหลังการออกกำลังกาย		
		☐ ออกกำลังกายในช่วงเวลา……		
		☐ ออกกำลังกายร่วมกับ (ระบุบุคคล).....		
		☐ สถานที่ออกกำลังกาย……	☐ ปฏิบัติได้ทุกวันใน 1 สัปดาห์ ☐ ปฏิบัติได้ 5-6 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 3-4 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 1-2 วัน/ สัปดาห์	
		☐ ใช้วิธีการเดินหรือขี่จักรยานเมื่อต้องเดินทางระยะใกล้ ๆ		
		☐ ใช้บันไดแทนการใช้ลิฟท์		
		☐ มีการจับชีพจรก่อน ขณะและหลังการออกกำลังกาย		
		☐ มีการสังเกตอาการผิดปกติระหว่างการออกกำลังกาย		
		☐ มีการเพิ่มอัตราการเต้นของหัวใจมากที่สุดขณะออกกำลังกาย		

ลงชื่อผู้ป่วย……ลงชื่อสมาชิกครอบครัว……ลงชื่อพยาบาลผู้ดูแล……

แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ

เป้าหมายระยะสั้น.....

วัตถุประสงค์	ระยะเวลา	วิธีปฏิบัติ	ผลการประเมิน	ลงชื่อ ผู้ประเมิน
การจัดการด้านการเลิกสูบบุหรี่	☐ สัปดาห์ที่ ……..	☐ ลดจำนวนการสูบบุหรี่/วัน คือ……..	☐ ไม่สามารถปฏิบัติได้ ☐ ปฏิบัติได้น้อยกว่า 50% ☐ ปฏิบัติได้มากกว่า 50% ☐ ปฏิบัติได้ทุกวิธีที่กำหนดไว้	
		☐ กำหนดวิธีการหยุดการสูบบุหรี่โดย…….		
		☐ กำหนดวันหยุดสุบบุหรี่คือ.....		
		☐ ทำกิจกรรมอย่างอื่นแทนเมื่ออยากสูบบุหรี่ เช่น……..……		
		☐ รักษาความสะอาดปากฟันอยู่เสมอ	☐ ปฏิบัติได้ทุกวันใน 1 สัปดาห์ ☐ ปฏิบัติได้ 5-6 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 3-4 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 1-2 วัน/ สัปดาห์	
		☐ ใช้วิธีการออกกำลังกายหรือผ่อนคลายความเครียดแทนการสูบบุหรี่		
		☐ เข้าร่วมโปรแกรมการเลิกสูบบุหรี่อย่างเป็นทางการ		
		☐ ไม่อยู่ใกล้กับบุคคลที่สูบบุหรี่		
		☐ เลือกอยู่ในสถานที่หรือบริเวณที่ห้ามสูบบุหรี่		

ลงชื่อผู้ป่วย……ลงชื่อสมาชิกครอบครัว……ลงชื่อพยาบาลผู้ดูแล……

แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ

เป้าหมายระยะสั้น.....

วัตถุประสงค์	ระยะเวลา	วิธีปฏิบัติ	ผลการประเมิน	ลงชื่อ ผู้ประเมิน
การจัดการความเครียด	☐ สัปดาห์ที่ ……..	☐ ยืดเหยียดกล้ามเนื้อ หายใจแบบลึก และทำสมาธิอย่างน้อย 30 นาที/วัน	☐ ไม่สามารถปฏิบัติได้ ☐ ปฏิบัติได้น้อยกว่า 50% ☐ ปฏิบัติได้มากกว่า 50% ☐ ปฏิบัติได้ทุกวิธีที่กำหนดไว้	
		☐ มีวิธีการจัดการความเครียดอื่นที่วางแผนจะปฏิบัติ คือ……..		
		☐ ระยะเวลาในการจัดการความเครียดที่วางแผนจะปฏิบัติ คือ…..…….นาที/วัน	☐ ปฏิบัติได้ทุกวันใน 1 สัปดาห์ ☐ ปฏิบัติได้ 5-6 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 3-4 วัน/ สัปดาห์ ☐ ปฏิบัติได้ 1-2 วัน/ สัปดาห์	
		☐ ทำกิจกรรมคลายความเครียดร่วมกับสมาชิกครอบครัวหรือเพื่อน		
		☐ พยายามหายใจลึก ๆ เมื่อต้องเผชิญกับความเครียดหรือมีอารมณ์โกรธ โมโห หงุดหงิด ไม่สบายใจ		
		☐ มีกิจกรรมผ่อนคลายความเครียดในการดำเนินชีวิตประจำวัน		

ลงชื่อผู้ป่วย……ลงชื่อสมาชิกครอบครัว……ลงชื่อพยาบาลผู้ดูแล……

Appendix F

The Comprehensive Cardiac Nursing Program Manual

(Thai Version)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Comprehensive Cardiac Nursing Program: โปรแกรมการพยาบาลแบบรวบยอด

ความสำคัญ

โรคหลอดเลือดหัวใจเป็นสาเหตุการตายอันดับ 3 ของประเทศไทย โรคนี้เป็นโรคเรื้อรังที่ไม่สามารถรักษาให้หายขาดได้ คุกคามต่อการดำเนินชีวิตและคุณภาพชีวิตของผู้ป่วยเป็นอย่างมาก อาการของโรคมีโอกาสที่จะกำเริบได้ตลอดเวลา เกิดภาวะเสี่ยงที่เป็นอันตรายถึงแก่ชีวิตได้ง่าย และการเกิดโรคนี้มีแนวโน้มเพิ่มสูงขึ้นเรื่อย การดูแลผู้ป่วยโรคหลอดเลือดหัวใจจึงมีความสำคัญและจำเป็นอย่างยิ่ง โดยเฉพาะผู้ป่วยโรคหลอดเลือดหัวใจที่ได้รับการวินิจฉัยในครั้งแรก เพราะผู้ป่วยขาดความรู้และความสามารถในการจัดการตนเองเพื่อที่จะปรับตัวให้ดำรงชีวิตอยู่ร่วมกับโรคเรื้อรังได้อย่างปกติสุข และผู้ป่วยต้องเผชิญกับประสบการณ์ที่คุกคามต่อชีวิต มีโอกาสเสียชีวิตได้มากกว่าคนทั่วไปถึง 15 เท่า (American Heart Association, 2003)

เมื่อเกิดโรคหลอดเลือดหัวใจขึ้นย่อมส่งผลกระทบต่อภาวะสุขภาพ ทั้งด้านร่างกาย จิตใจ สังคม เศรษฐกิจ จิตวิญญาณ และคุณภาพชีวิตของผู้ป่วยและครอบครัว (Beck, 2001; Brink et al., 2002; 2005; Boini et al., 2005; Lukkarinen & Hentinen, 1997; Mendes de Leon et al., 1998; Plevier et al., 2001; Worcestor et al., 2007) ผู้ป่วยส่วนใหญ่มักประสบปัญหาจากภาวะแทรกซ้อนที่เป็นอันตรายร้ายแรงเพิ่มมากขึ้นโดยเฉพาะในช่วงปีแรกของการเจ็บป่วย (Fox et al., 2001; Non communicable disease department, Ministry of Public Health, 2007; Thai Acute Coronary Syndrome Registry, 2006) และจากการทบทวนวรรณกรรมยังพบว่าผู้ป่วยโรคหลอดเลือดหัวใจมีการเปลี่ยนแปลงของภาวะสุขภาพทำให้คุณภาพชีวิตต่ำลง (Benzer, Hofer, & Oldridge, 2003; Brink et al., 2002; Daly et al., 2000; Leingkobkij, 1999; Lortajakul, 2006; Lukkarinen, 2005)

การเกิดโรคหลอดเลือดหัวใจมีสาเหตุที่เกี่ยวข้องกับการมีพฤติกรรมในการดำเนินชีวิตที่ก่อให้เกิดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้แก่ การรับประทานอาหารที่มีไขมันคอเลสเตอรอลในปริมาณที่สูง ขาดการมีกิจกรรมและการออกกำลังกาย การสูบบุหรี่ การมีพฤติกรรมการเผชิญความเครียดที่ไม่เหมาะสม สิ่งเหล่านี้ส่งเสริมทำให้เกิดหลอดเลือดหัวใจตีบ อุดตัน การยืดขยายของหลอดเลือดหัวใจไม่ดี ทำให้แสดงอาการออกมาอย่างเห็นได้ชัด (Sriprasong, 2000) และนอกจากนี้ยังพบว่าภายหลังการเกิดโรคหลอดเลือดหัวใจแล้ว ผู้ป่วยยังคงมีพฤติกรรมเสี่ยงต่อโรคหลอดเลือดหัวใจดังกล่าวอย่างต่อเนื่อง (Changperk, 2001; Keinwong, 2004; Thumatisthan, 2000) ส่งผลทำให้โรคหลอดเลือดหัวใจมีความรุนแรงเพิ่มขึ้น (Benzer, Hofer, & Oldridge, 2003; Daly et al., 2000; Lukkarinen, 2005; Worcestor et al., 2007) ผู้ป่วยจำเป็นที่จะต้องได้รับการดูแลช่วยเหลือให้สามารถปรับตัวที่จะดำเนินชีวิตได้อย่างดีมีคุณภาพชีวิตสูงสุดเท่าที่จะเป็นไปได้

หลักการและแนวคิด

โรคหลอดเลือดหัวใจเป็นโรคที่ไม่สามารถรักษาให้หายขาดได้ และอาการของโรคมีโอกาสกำเริบได้ตลอดเวลา ส่งผลกระทบทำให้ผู้ป่วยมีคุณภาพชีวิตต่ำ ความสามารถในการรจัดการตนเองของงผู้ป่วยจึงเป็นสิ่งสำคัญและจำเป็นที่ผู้ป่วยต้องเรียนรู้ เพื่อให้มีความรู้ความสามารถในการจัดการ โรคหลอดเลือดหัวใจได้อย่างเหมาะสม อันจะคงไว้หรือพัฒนาความรู้สึกพึงพอใจในการดำเนินชีวิตและพัฒนาคุณภาพชีวิตของตนเองได้ (Kanfer & Goelick-Buy, 1991)

เป้าหมายในการดูแลผู้ป่วยโรคหลอดเลือดหัวใจ มิเพียงแต่จะยืดอายุของผู้ป่วย บรรเทาอาการและเพิ่มศักยภาพในการดำเนินชีวิตประจำวัน ยังจำเป็นต้องเพิ่มคุณภาพชีวิตของผู้ป่วยด้วย (Benzer et al., 2003; Thompson et al., 1998) ถ้าผู้ป่วยมีคุณภาพชีวิตที่ดีก็จะลดอัตราการเกิดภาวะแทรกซ้อนที่เป็นอันตรายร้ายแรง ลดความจำเป็นและความต้องการในการทำหัตถการทางการแพทย์ที่ต้องใช้เทคโนโลยีและงบประมาณในการรักษาพยาบาลได้ นอกจากนี้ยังพบว่าผู้ป่วยในระยะเริ่มแรกของการเจ็บป่วย มักยินดีที่จะปฏิบัติตามคำแนะนำจากทีมสุขภาพ การส่งเสริมให้ผู้ป่วยปรับตัวต่อการเจ็บป่วยด้วยโรคเรื้อรังตามแนวคิดการจัดการตนเองจึงจำเป็นต้องเริ่มต้นทันทีที่ได้รับการวินิจฉัยในครั้งแรก (Fox et al., 2001; McSweeney, 1993)

จากการทบทวนวรรณกรรมพบว่าโปรแกรมการจัดการตนเองนั้นสามารถสนับสนุนให้ผู้ป่วยสามารถดำรงชีวิตอย่างมีคุณภาพชีวิตที่ดีได้แม้ว่าจะเจ็บป่วยด้วยโรคเรื้อรัง (Bodenheimer, Lorig, Holman, & Grumbach, 2002) เทคนิคการจัดการตนเองได้รับการยอมรับว่าเป็นวิธีการที่ช่วยส่งเสริมพฤติกรรมสุขภาพและสุขภาวะของผู้ป่วย (Dongbo et al., 2003) โดยอาศัยกระบวนการเรียนรู้ที่เน้นย้ำให้ผู้ป่วยมีการเปลี่ยนแปลงพฤติกรรมเสี่ยงที่ก่อให้เกิดความรุนแรงของโรค (Browder & Shapiro, 1985) บนพื้นฐานของการกำกับติดตามตนเอง การประเมินผลตนเอง การสร้างเสริมแรงจูงใจ และการประสานความร่วมมือระหว่างผู้ป่วยและบุคลากรทางสุขภาพ เมื่อบุคคลมีการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคอันได้แก่ การจัดการด้านอาหาร การมีกิจกรรมและการออกกำลังกายที่เหมาะสม การสูบบุหรี่ และการจัดการความเครียดแล้วนั้น ย่อมส่งผลทำให้ปัจจัยเสี่ยงของโรคลดลง การอุดตันของหลอดเลือดหัวใจลดลง หลอดเลือดขยายตัวได้มากขึ้น การทำหน้าที่สูบฉีดเลือดไปเลี้ยงส่วนต่างๆ ของร่างกายดีขึ้น เลือดไหลเวียนกลับมาเลี้ยงหัวใจในปริมาณที่เพียงพอกับความต้องการ ทำให้ไม่เกิดอาการกล้ามเนื้อหัวใจขาดเลือด อาการและความรุนแรงของโรคลดน้อยลง และส่งผลทำให้ภาวะสุขภาพและคุณภาพชีวิตของผู้ป่วยดีขึ้นด้วย

โปรแกรมการจัดการตนเองสำหรับผู้ป่วยโรคเรื้อรังทำให้ผู้ป่วยมีความรู้ มีความเชื่อมั่นในความสามารถของตน สามารถปรับเปลี่ยนแบบแผนการดำเนินชีวิต จัดการกับพฤติกรรมสุขภาพ เพิ่มความสามารถในการดูแลตนเองและคุณภาพชีวิตได้ (Barlow, Wright, Sheasby, Turner, &

Hainsworth, 2002; Norris, 2001; Newmann, 2004) จากการศึกษาของ Beswick et al (2004) พบว่า เทคนิคการจัดการตนเองสามารถช่วยให้ผู้ป่วยที่ฟื้นฟูสมรรถภาพหัวใจสามารถปรับเปลี่ยนแบบแผนการดำเนินชีวิตเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้ การจัดการโรคหลอดเลือดหัวใจช่วยลดอัตราการตาย ลดการกลับเป็นซ้ำ ลดภาวะแทรกซ้อนของโรคและพัฒนาคุณภาพชีวิตของผู้ป่วยได้

ดังนั้นผู้ป่วยโรคหลอดเลือดหัวใจที่ได้รับการวินิจฉัยในครั้งแรกที่เข้าร่วมโปรแกรมการพยาบาลแบบรวบยอดที่พัฒนาขึ้นตามแนวคิดทฤษฎีการจัดการตนเอง ซึ่งมุ่งเน้นให้ผู้ป่วยได้มีการจัดการพฤติกรรมในการลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจของตนเอง ย่อมจะส่งผลทำให้เกิดการพัฒนาสุขภาพและคุณภาพชีวิตของผู้ป่วยให้ดีขึ้นได้

จุดเด่นของกรอบแนวคิด

การพัฒนาโปรแกรมการพยาบาลแบบรวบยอดจากแนวคิดทฤษฎีการจัดการตนเอง ของ Kanfer & Goelick-Buy (1991) มีวัตถุประสงค์เพื่อพัฒนาให้ผู้ป่วยโรคหลอดเลือดหัวใจซึ่งเป็นการเจ็บป่วยด้วยโรคเรื้อรังมีคุณภาพชีวิตสูงสุด เพราะการจัดการตนเองเป็นแนวคิดที่นิยมใช้ในการดูแลผู้ป่วยด้วยโรคเรื้อรัง และได้รับการพิจารณาว่ามีประโยชน์สูงสุดในการจัดการพฤติกรรมเสี่ยงที่เป็นสาเหตุสำคัญของการเปลี่ยนแปลงภาวะสุขภาพและความรุนแรงของโรค เป็นการสะท้อนให้เห็นถึงความรับผิดชอบของผู้ป่วยในการจัดการกับภาวะสุขภาพของตนเอง โดยการประสานความร่วมมือระหว่างพยาบาลและผู้ป่วย ที่ยึดผู้ป่วยเป็นศูนย์กลางและตระหนักถึงความสำคัญในการให้การพยาบาลแบบองค์รวมอย่างต่อเนื่องจากโรงพยาบาลสู่บ้าน

การจัดการตนเองถือว่าเป็นแนวคิดสำคัญในการส่งเสริมให้ผู้ป่วยได้เกิดการเรียนรู้ พัฒนาทักษะที่สามารถจัดการกับพฤติกรรมสุขภาพของตนเองได้อย่างต่อเนื่อง เพราะแนวคิดนี้ส่งเสริมให้ผู้ป่วยรู้จักคิด วิเคราะห์ กำกับติดตาม ประเมินผล สร้างเสริมแรงจูงใจในตนเอง และส่งเสริมให้ผู้ป่วยเกิดการเรียนรู้ ที่ก่อให้เกิดการจัดการตนเองได้อย่างเหมาะสม บนพื้นฐานของความเชื่อที่ว่าบุคคลทุกคนมีศักยภาพและความสามารถในการควบคุมและจัดการภาวะสุขภาพของตนเอง โปรแกรมการพยาบาลแบบรวบยอดนี้จึงมุ่งเน้นการใช้กระบวนการกำกับติดตามตนเอง การประเมินผลตนเอง และการสร้างเสริมแรงจูงใจตนเองในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ อันจะส่งเสริมให้ผู้ป่วยมีภาวะสุขภาพและคุณภาพชีวิตที่ดีต่อไปได้

โปรแกรมการพยาบาลแแบบรวบยอด คือโปรแกรมการพยาบาลที่มุ่งเน้นให้ผู้ป่วย มีความรู้ความเข้าใจ ความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ โดยเฉพาะการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ได้แก่ การจัดการเรื่องอาหาร การมีกิจกรรมและการออกกำลังกาย การสูบบุหรี่ และความเครียด อันประกอบด้วยกระบวนการ

กำกับติดตามตนเอง กระบวนการประเมินผลตนเอง และกระบวนการสร้างเสริมแรงจูงใจในตนเอง ตามแนวคิดทฤษฎีการจัดการตนเอง เพื่อพัฒนาให้ผู้ป่วยมีภาวะสุขภาพและคุณภาพชีวิตที่ดี โปรแกรมการพยาบาลแบบรวบยอดนี้ แบ่งออกเป็น 4 ระยะ ได้แก่ ระยะการประเมินพฤติกรรมเสี่ยงเกี่ยวกับโรคหลอดเลือดหัวใจ ระยะเตรียมการเพื่อการจัดการตนเอง ระยะปฏิบัติในการจัดการตนเอง และระยะประเมินผลการจัดการตนเอง จากทั้ง 4 ระยะนี้แบ่งกิจกรรมที่ต้องปฏิบัติทั้งที่โรงพยาบาลและที่บ้านของผู้ป่วยที่เข้าร่วมการศึกษาวิจัย ซึ่งในแต่ละระยะจะประกอบด้วยการใช้กระบวนการกำกับติดตาม การประเมินผลตนเอง และการสร้างเสริมแรงจูงใจในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ กิจกรรมของโปรแกรมการพยาบาลแบบรวบยอดนี้เริ่มตั้งแต่ตั้งแต่วันที่ 2 และ 3 ของการเข้ารับการรักษาในโรงพยาบาล มีการติดตามเยี่ยมบ้าน 1 ครั้ง ในสัปดาห์ที่ 2 หลังจำหน่ายออกจากโรงพยาบาล มีการโทรศัพท์ติดตาม สร้างเสริมแรงจูงใจในการปฏิบัติการจัดการพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจโดยพยาบาลผู้ดูแล 2 ครั้ง ในสัปดาห์ที่ 4 และ 6 หลังจำหน่ายออกจากโรงพยาบาล หลังจากนั้นผู้วิจัยมีการติดตามเพื่อประเมินผลการศึกษาวิจัยที่โรงพยาบาล เมื่อครบ 8 สัปดาห์หลังจำหน่ายออกจากโรงพยาบาล) รวมระยะเวลาทั้งสิ้น 2 เดือน ตั้งแต่เริ่มโปรแกรมการพยาบาลแบบรวบยอดจนถึงการประเมินผลเมื่อสิ้นสุดโปรแกรม โดยมีรายละเอียดดังนี้

ระยะที่ 1: ระยะการประเมินพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจ เป็นขั้นตอนแรกของโปรแกรมการพยาบาลแบบรวบยอดเพื่อประเมินความรู้ประสบการณ์เดิม พฤติกรรมเสี่ยงและความสามารถในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ

กิจกรรมในระยะนี้ประกอบด้วย การประเมิน ความรู้ ประสบการณ์เดิม พฤติกรรมเสี่ยงและความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ การสร้างสัมพันธภาพและให้การดูแลช่วยเหลือทางด้านจิตใจ เพื่อเป็นการเตรียมให้ผู้ป่วยมีความพร้อมในการเข้าร่วมกิจกรรมของโปรแกรมนี้ และสร้างเสริมให้ผู้ป่วยได้เกิดการยอมรับต่อการเปลี่ยนแปลงของภาวะสุขภาพ โดยพยาบาลจะยกตัวอย่างกรณีศึกษาผู้ป่วยที่ประสบความสำเร็จ ในการจัดการตนเองเมื่อเป็นโรคหลอดเลือดหัวใจ เพื่อสร้างเสริมแรงจูงใจ ความเชื่อมั่นในตนเอง ส่งเสริมให้ผู้ป่วยได้รับรู้ว่าตนเองสามารถดำเนินการจัดการโรคหลอดเลือดหัวใจด้วยตนเองได้ และใช้แบบสอบถามข้อมูลส่วนบุคคลและพฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ

กิจกรรมนี้จัดขึ้นที่หอผู้ป่วยอายุรกรรม ในวันที่ 2 ของการเข้ารับการรักษาในโรงพยาบาล ใช้เวลาประมาณ 20 นาที

ระยะที่ 2: ระยะเตรียมการเพื่อการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ เป็นระยะที่มีการจัดเตรียม เพื่อให้ผู้ป่วยมีความรู้ ความเข้าใจ ตระหนักถึงความสำคัญและความสัมพันธ์

ระหว่างโรคหลอดเลือดหัวใจ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ และการจัดการเกี่ยวกับโรคหลอดเลือดหัวใจ และมีทักษะที่จำเป็นในการจัดการพฤติกรรมสุขภาพของตนเองทั้ง 4 ด้าน ได้แก่ การจัดการด้านอาหาร การมีกิจกรรมและการออกกำลังกาย การสูบบุหรี่ และความเครียด เพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้

กิจกรรมในระยะนี้ประกอบด้วย

2.1) การให้ข้อมูลเกี่ยวกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ พยาธิสภาพ อาการและอาการแสดง พฤติกรรมเสี่ยงที่ส่งผลกระทบต่อความรุนแรงของโรค ภาวะแทรกซ้อน และการจัดการพฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ประกอบการใช้สื่อคู่มือผู้ป่วยโรคหลอดเลือดหัวใจ กิจกรรมนี้กระทำที่หอผู้ป่วยอายุรกรรม ในวันที่ 2 ของการเข้ารับการรักษาในโรงพยาบาล ใช้เวลาประมาณ 45 นาที

2.2) การให้ข้อมูลและการฝึกทักษะเกี่ยวกับการจัดการพฤติกรรมสุขภาพ 4 ด้านได้แก่ การจัดการด้านอาหาร การมีกิจกรรมและการออกกำลังกาย การสูบบุหรี่ และการจัดการกับความเครียด โดยพยาบาลผู้ดูแลประกอบการใช้วิดีทัศน์การจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจ รวมถึงการดูแลช่วยเหลือให้ผู้ป่วยสามารถวิเคราะห์ปัญหา กำหนดเป้าหมายระยะสั้นและระยะยาว กำหนดแนวทางปฏิบัติในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงโรคหลอดเลือดหัวใจของตนเองได้ซึ่งครอบคลุมถึงวัตถุประสงค์ กรอบเวลา วิธีการปฏิบัติ และวิธีการประเมินผล รวมไปถึงการส่งเสริมให้ผู้ป่วยได้มีความมั่นใจในตนเอง และการใช้เทคนิคการเสริมสร้างแรงจูงใจในการปฏิบัติให้บรรลุเป้าหมายตามที่กำหนดไว้ นอกจากนี้แล้วผู้ป่วยยังจะต้องมีความเข้าใจวิธีการบันทึกลงในสมุดบันทึกคู่ใจของผู้ป่วยเพื่อกำกับติดตามและประเมินผลการจัดการพฤติกรรมสุขภาพ และใช้เทคนิคการเรียนรู้ด้วยตนเองโดยใช้ประโยชน์จากสื่อของโปรแกรมคือ คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ และวิดีทัศน์การจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจและการดูแลช่วยเหลือจากสมาชิกครอบครัว เพื่อเป็นการส่งเสริมให้ผู้ป่วยได้มีความพร้อมในการปฏิบัติการจัดการพฤติกรรมสุขภาพอย่างต่อเนื่องเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันได้ กิจกรรมนี้กระทำที่หอผู้ป่วยอายุรกรรม ในวันที่ 3 ของการเข้ารับการรักษาในโรงพยาบาล ใช้เวลาประมาณ 60 นาที

ระยะที่ 3: ระยะปฏิบัติการในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ เป็นระยะที่ผู้ป่วยต้องปฏิบัติการจัดการตนเองเกี่ยวกับจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ เกี่ยวกับการจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการด้านความเครียด อย่างต่อเนื่องนับตั้งแต่ผู้ป่วยจำหน่ายออกจากโรงพยาบาล โดยผู้ป่วยเลือกปฏิบัติในการจัดการตนเอง 2 เรื่อง ในสัปดาห์ที่ 1 และ

ปฏิบัติเพิ่มอีก 2 เรื่องครบครอบคลุมทั้ง 4 เรื่องในสัปดาห์ที่ 2 โดยพยาบาลติดตามเยี่ยมบ้านในสัปดาห์ที่ 2 ใช้เวลาประมาณ 60 นาที เพื่อประเมินผลการจัดการพฤติกรรมสุขภาพตามเป้าหมายระยะสั้น และผู้ป่วยมีการปฏิบัติอย่างต่อเนื่องในการดำเนินชีวิตประจำวันรวมถึงมีการประเมินผลการบรรลุเป้าหมายระยะยาวเมื่อครบ 8 สัปดาห์ การปฏิบัติการจัดการตนเองนี้ประกอบไปด้วยกระบวนการกำกับติดตามตนเอง การประเมินผลตนเอง และการสร้างเสริมแรงจูงใจตามแนวคิดการจัดการตนเอง ทั้งนี้ผู้ป่วยสามารถปรับเปลี่ยนวิธีการจัดการตนเองให้มีความเหมาะสมกับสภาพปัญหา บริบทและแนวทางการดำเนินชีวิตของตนเอง และผู้ป่วยยังสามารถปรับเปลี่ยนเป้าหมาย แผนปฏิบัติการ กลวิธีในการดำเนินการให้สามารถเพิ่มพฤติกรรมสุขภาพตามที่ปรารถนาให้เกิดขึ้น เพื่อให้บรรลุเป้าหมายที่สูงยิ่งขึ้นต่อไปได้ โดยใช้ประโยชน์จากข้อมูลในสมุดบันทึกคู่ใจ สื่อคู่มือผู้ป่วยโรคหลอดเลือดหัวใจและวิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ รวมไปถึงการดูแลสนับสนุนช่วยเหลือจากสมาชิกครอบครัว

ในระหว่างการปฏิบัติการจัดการตนเองนี้ผู้ป่วยยังมีการกำกับติดตาม ประเมินผล และเสริมสร้างแรงจูงใจตนเองในการปฏิบัติการจัดการพฤติกรรมสุขภาพของตนเองทั้ง 4 เรื่องโดยบันทึกการจัดการพฤติกรรมสุขภาพในสมุดบันทึกคู่ใจทุกวัน และนอกจากนี้พยาบาลมีการใช้โทรศัพท์ในสัปดาห์ที่ 4 และสัปดาห์ที่ 6 หลังผู้ป่วยจำหน่ายออกจากโรงพยาบาล ครั้งละไม่เกิน 10-15 นาทีเพื่อสร้างแรงจูงใจ กำกับติดตาม และประเมินผลการจัดการพฤติกรรมสุขภาพและการบันทึกในสมุดบันทึกคู่ใจ และเพื่อกระตุ้น ส่งเสริมให้ผู้ป่วยได้มีการตัดสินใจแก้ไขปัญหาสุขภาพที่เกิดขึ้นอย่างถูกต้องเหมาะสม

ระยะที่ 4: ระยะประเมินผลการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ การประเมินผลการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจนี้ประกอบด้วยกิจกรรมหลาย ขั้นตอนด้วยกันคือ

1. การประเมินผลการบรรลุเป้าหมายระยะสั้นและระยะยาว ในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ การประเมินเป้าหมายระยะสั้นจัดขึ้นที่บ้านผู้ป่วยในสัปดาห์ที่ 2 หลังจำหน่ายออกโรงพยาบาล การประเมินเป้าหมายระยะยาวประเมินเมื่อผู้ป่วยมาตรวจตามแพทย์นัดในสัปดาห์ที่ 8 หลังจำหน่ายออกจากโรงพยาบาล ที่แผนกผู้ป่วยนอก ใช้เวลาประมาณครั้งละ 10 นาที โดยพิจารณาข้อมูลจากการนำเสนอของผู้ป่วยและสมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจ

2. การประเมินความสามารถในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ ที่ประกอบด้วยการประเมินความรู้และความสามารถในการจัดการเกี่ยวกับโรคหลอดเลือดหัวใจ โดยใช้แบบสอบถามการจัดการตนเองสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ ซึ่งแบบสอบถามนี้แบ่ง

ออกเป็น 2 ส่วน ส่วนแรกใช้ประเมินความรู้เกี่ยวกับโรคหลอดเลือดหัวใจสำหรับผู้ป่วย เพื่อเป็นการประเมินความรู้ ความเข้าใจของผู้ป่วยในวันที่ 3 ของการเข้ารับการรักษาในโรงพยาบาล ส่วนที่ 2 ใช้ประเมินความสามารถในการจัดการพฤติกรรมเสี่ยงของผู้ป่วยโรคหลอดเลือดหัวใจ ในสัปดาห์ที่ 2 หลังจำหน่ายออกจากโรงพยาบาล จากการติดตามเยี่ยมบ้าน การประเมินในแต่ละส่วนใช้เวลาประมาณ 15 นาที

กิจกรรมนี้จัดกระทำขึ้นเพื่อเป็นการกำกับติดตามให้ผู้ป่วยมีคุณสมบัติบรรลุตามเกณฑ์มาตรฐานของโปรแกรมการพยาบาลแบบรวบยอด โดยผู้ป่วยจะต้องทำแบบสอบถามให้ผ่านเกณฑ์ 75% ในแต่ละส่วน ถ้าผู้ป่วยไม่สามารถทำแบบสอบถามได้ตามเกณฑ์ที่กำหนดไว้ พยาบาลผู้ดูแลจะมีการปฏิบัติกิจกรรมในระยะที่ 2 และ 3 อีกครั้งในวันต่อไป

สื่อที่ใช้ประกอบโปรแกรมการพยาบาลแบบรวบยอดนี้ประกอบด้วย

1) คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ ขนาด A5 ประกอบภาพสี จำนวนประมาณ 50 หน้า โดยพยาบาลใช้ประกอบการให้คำแนะนำกับผู้ป่วยตั้งแต่ระยะที่ 2 ในการเตรียมการเพื่อให้ผู้ป่วยสามารถการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจได้ หลังจากนั้นมอบให้ผู้ป่วยไว้เพื่อศึกษาเรียนรู้ได้ตลอดเวลา

2) วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ ความยาวประมาณ 20 นาที โดยพยาบาลใช้ประกอบการเตรียมการผู้ป่วยสามารถการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้อย่างเหมาะสมตั้งแต่ระยะที่ 2 เป็นต้นไป รวมทั้งมอบให้ผู้ป่วยไว้เพื่อศึกษาเรียนรู้ได้ตลอดเวลา

3) สมุดบันทึกคู่ใจ มอบให้ผู้ป่วยไว้เพื่อใช้สำหรับกำกับติดตาม บันทึก และประเมินผลการจัดการพฤติกรรมสุขภาพของผู้ป่วย โดยผู้ป่วยในกลุ่มทดลองจะได้รับสื่อทั้งหมดนี้ในระหว่างการศึกษาวิจัย สำหรับผู้ป่วยในกลุ่มควบคุม จะได้รับสื่อนี้เมื่อสิ้นสุดการศึกษาวิจัย

จากโปรแกรมการพยาบาลแบบรวบยอดที่แบ่งออกเป็น 4 ระยะนี้ สามารถกำหนดการปฏิบัติดำเนินการตามคู่มือโปรแกรมการพยาบาลแบบรวบยอดนี้ทั้งหมด 5 ครั้ง ดังรายละเอียดต่อไปนี้

การดำเนินการใช้โปรแกรมการพยาบาลแบบรวบยอดสำหรับพยาบาล

ครั้งที่ 1: การประเมินพฤติกรรมเสี่ยงและการสร้างเสริมความรู้ความเข้าใจเกี่ยวกับโรคหลอดเลือดหัวใจ

วันที่: วันที่ 2 ของการเข้ารับการรักษาที่โรงพยาบาล

ระยะเวลา: 45 นาที

สถานที่: หอผู้ป่วยอายุรกรรม

บุคคลที่เกี่ยวข้อง: พยาบาลผู้ดูแล ผู้ช่วยวิจัย ผู้ป่วยและสมาชิกครอบครัว

วัตถุประสงค์:

1. เพื่อสร้างสัมพันธภาพที่ดีกับผู้ป่วยและเตรียมให้ผู้ป่วยมีความพร้อมในการเข้าร่วมกิจกรรมของโปรแกรมการพยาบาลแบบรวบยอด
2. เพื่อประเมินความรู้ ประสบการณ์เดิม พฤติกรรมเสี่ยงและความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจของผู้ป่วย
3. เพื่อส่งเสริมให้ผู้ป่วยได้ยอมรับการเปลี่ยนแปลงของภาวะสุขภาพและเชื่อมั่นในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ
4. เพื่อให้ผู้ป่วยมีความรู้และตระหนักถึงความสำคัญของโรคหลอดเลือดหัวใจ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ และการจัดการเกี่ยวกับโรคหลอดเลือดหัวใจ

สื่อ

1. ตารางนัดหมาย
2. คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ
3. กรณีศึกษาที่ประสบความสำเร็จในการในการจัดการตนเองเกี่ยวกับโรคหลอดเหลือดหัวใจที่พัฒนาขึ้นจากสถานการณ์จริง

กิจกรรม

1. พยาบาลผู้ดูแล ผู้ช่วยวิจัย ผู้ป่วยและสมาชิกครอบครัว แนะนำตนเองเพื่อสร้างสัมพันธภาพที่ดี
2. พยาบาลผู้ดูแลสอน สาธิต และฝึกเทคนิคการหายใจแบบลึก รวมถึงแนะนำให้ผู้ป่วยได้ใช้เทคนิคนี้ก่อนเข้าร่วมกิจกรรมของโปรแกรมการพยาบาลแบบรวบยอดทุกครั้งและทุกเช้า
3. พยาบาลผู้ดูแลประเมินความรู้ ประสบการณ์เดิม พฤติกรรมเสี่ยงและความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจของผู้ป่วย โดยการสอบถามและการทบทวนข้อมูลจากแบบสอบถามพฤติกรรมสุขภาพและแบบสอบถามความรู้และการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจสำหรับผู้ป่วย

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

4. พยาบาลผู้ดูแลแนะนำ วัตถุประสงค์ องค์ประกอบและภาพรวมที่สำคัญของโปรแกรมการพยาบาลแบบรวบยอด
5. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัวทำการนัดหมายการร่วมกิจกรรมของโปรแกรมการพยาบาลแบบรวบยอด โดยนัดพบที่โรงพยาบาลอีก 1 ครั้ง 1 วันก่อนจำหน่ายออกจากโรงพยาบาล นัดพบที่บ้านของผู้ป่วย จำนวน 1 ครั้ง ในสัปดาห์ที่ 2 หลังจำหน่ายออกจากโรงพยาบาล มีการใช้โทรศัพท์เพื่อติดตาม ประเมินผล และสร้างเสริมแรงจูงใจให้ผู้ป่วยได้ปฏิบัติในการจัดการตนเองอย่างต่อเนื่องจำนวน 2 ครั้ง ในสัปดาห์ที่ 4 และ 6 หลังจำหน่ายออกจากโรงพยาบาล และมีการนัดผู้ป่วยมาที่โรงพยาบาลพร้อมกับแพทย์นัดในสัปดาห์ที่ 8 หลังจำหน่ายออกจากโรงพยาบาล เพื่อประเมินผลการจัดการพฤติกรรมสุขภาพตามเป้าหมายระยะยาว และทำแบบสอบถามภายหลังสิ้นสุดการศึกษาวิจัย
6. พยาบาลผู้ดูแลเปิดโอกาสและกระตุ้นให้ผู้ป่วยและสมาชิกครอบครัวได้แสดงความรู้สึกต่อการเป็นผู้ป่วยโรคหลอดเลือดหัวใจ และการเป็นสมาชิกครอบครัวของผู้ป่วยโรคหลอดเลือดหัวใจ
7. พยาบาลผู้ดูแลอธิบายความสำคัญของการจัดการตนเองเมื่อเป็นโรคหลอดเลือดหัวใจ เพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจและควบคุมไม่ให้อาการของโรคมีความรุนแรงเพิ่มขึ้น
8. พยาบาลผู้ดูแลให้ข้อมูลเกี่ยวกับโรคหลอดเลือดหัวใจเพื่อให้ผู้ป่วยสามารถจัดการพฤติกรรมสุขภาพในการลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ได้แก่ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ พยาธิสภาพ อาการและอาการแสดง พฤติกรรมเสี่ยงที่ส่งผลกระทบต่อความรุนแรงของโรค ภาวะแทรกซ้อนและการจัดการพฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ประกอบการใช้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ
9. พยาบาลผู้ดูแลอธิบายผู้ป่วยถึงวิธีการตอบสนองต่อการเจ็บป่วยด้วยโรคเรื้อรังโดยใช้ทักษะการจัดการความเครียด ความวิตกกังวล การจัดการกับการเปลี่ยนแปลงบทบาท การแสดงทุกบทบาทให้เหมาะสม และการจัดการพฤติกรรมสุขภาพของตนเองเพื่อคงไว้ซึ่งคุณภาพชีวิตที่ดีถึงแม้เป็นโรคหลอดเลือดหัวใจ
10. พยาบาลผู้ดูแลส่งเสริมให้ผู้ป่วยได้ใช้การจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจอย่างมีประสิทธิภาพและป้องกันการจัดการตนเองล้มเหลว โดยใช้วิธีการ ดังนี้

    ก) ให้สมาชิกครอบครัวเข้าร่วมในโปรแกรมเพื่อเป็นการสนับสนุนด้านสิ่งแวดล้อม

ข) ใช้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจและวิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ เพื่อสร้างเสริมความรู้และทักษะการปฏิบัติในการจัดการพฤติกรรมสุขภาพ

ค) สร้างแรงจูงใจในการปรับเปลี่ยนพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจโดยการอธิบาย ผลดี/ผลเสียที่จะเกิดตามมาถ้าผู้ป่วยสามารถ/ไม่สามารถจัดการพฤติกรรมเสี่ยงของตนเองได้

11. พยาบาลผู้ดูแลยกตัวอย่างกรณีศึกษาที่ประสบความสำเร็จในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจที่สร้างขึ้นจากสถานการณ์จริง เพื่อสร้างพลังและแรงจูงใจให้ผู้ป่วยได้มีการเปลี่ยนแปลงพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ
12. พยาบาลผู้ดูแลและสมาชิกครอบครัวกระตุ้นให้ผู้ป่วยได้คิด ตัดสินใจเกี่ยวกับการเลือกวิธีการที่ดีและถูกต้องในการปฏิบัติเพื่อให้มีภาวะสุขภาพที่ดีขึ้น
13. ผู้ป่วยและสมาชิกครอบครัวสามารถปรึกษาหารือกับพยาบาลผู้ดูแลได้ตลอดเวลาทางโทรศัพท์

การประเมินผล

พยาบาลผู้ดูแล ผู้ช่วยวิจัย ผู้ป่วย และสมาชิกครอบครัวมีสัมพันธภาพที่ดีต่อกัน พยาบาลรับทราบความรู้ ประสบการณ์เดิม พฤติกรรมเสี่ยงและความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจของผู้ป่วย ผู้ป่วยมีความรู้ความเข้าใจและตระหนักถึงความสำคัญของโรคหลอดเลือดหัวใจ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ และการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ นอกจากนี้แล้วผู้ป่วยยังบอกได้ถึงความมั่นใจในการจัดการตนเองเพื่อตอบสนองต่อการเป็นผู้ป่วยโรคหลอดเลือดหัวใจได้

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ครั้งที่ 2: **การจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ**

วันที่: วันที่ 3 ของการเข้ารับการรักษาในโรงพยาบาล

ระยะเวลา: 60 นาที

สถานที่: หอผู้ป่วยอายุรกรรม

บุคคลที่เกี่ยวข้อง: พยาบาลผู้ดูแล ผู้ป่วย และสมาชิกครอบครัว

วัตถุประสงค์:

1. เพื่อส่งเสริมให้ผู้ป่วยมีความรู้ ความเข้าใจ และสามารถปฏิบัติในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจของตนเองในการดำเนินชีวิตประจำวันได้
2. เพื่อช่วยให้ผู้ป่วยได้กำหนดเป้าหมายระยะสั้นและระยะยาว วิธีการปฏิบัติเพื่อให้บรรลุเป้าหมายในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจของตนเองได้
3. เพื่อส่งเสริมให้ผู้ป่วยได้ใช้เทคนิคการเสริมสร้างแรงจูงใจในการจัดการพฤติกรรมสุขภาพอย่างต่อเนื่องเพื่อให้บรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพตามที่กำหนดไว้
4. เพื่อส่งเสริมให้ผู้ป่วยเข้าใจวิธีการบันทึกสมุดบันทึกคู่ใจเพื่อเป็นการกำกับติดตามและประเมินผลการจัดการพฤติกรรมสุขภาพลงในสมุดบันทึกคู่ใจของผู้ป่วยโรคหลอดเลือดหัวใจได้อย่างถูกต้อง
5. เพื่อประเมินความรู้เกี่ยวกับโรคหลอดเลือดหัวใจของผู้ป่วยตามเกณฑ์มาตรฐานของการเข้าร่วมโปรแกรมการพยาบาลแบบรวบยอด 75%

สื่อ:

1. คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ
2. วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ
3. สมุดบันทึกคู่ใจของผู้ป่วยโรคหลอดเลือดหัวใจ เพื่อบันทึก เป้าหมายและวิธีการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ (แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพ)
4. กรณีศึกษาที่ไม่ประสบความสำเร็จในการในการจัดการตนเองเกี่ยวกับโรคหลอดเหลือดหัวใจโดยพัฒนาขึ้นจากสถานการณ์จริง

กิจกรรม:

1. ผู้ป่วยใช้เทคนิคการหายใจแบบลึก ก่อนที่จะเริ่มกิจกรรมของโปรแกรมการพยาบาลแบบรวบยอด

2. พยาบาลผู้ดูแลและผู้ป่วยร่วมกันทบทวนสาระสำคัญของโรคหลอดเลือดหัวใจ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ การจัดการพฤติกรรมสุขภาพเพื่อในการลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ประกอบการใช้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ
3. พยาบาลผู้ดูแลถามเพื่อให้ผู้ป่วยอธิบายความสัมพันธ์ระหว่างปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจและโรคหลอดเลือดหัวใจ และบอกได้ถึงปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจของตนเอง
4. พยาบาลผู้ดูแลสอน สาธิตและฝึกให้ผู้ป่วยได้ปฏิบัติการจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน เกี่ยวกับการจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการกับความเครียด และการจัดการด้านการสูบบุหรี่ โดยใช้วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ
5. พยาบาลผู้ดูแลให้ข้อมูลเกณฑ์มาตรฐานที่ผู้ป่วยโรคหลอดเลือดหัวใจควรปฏิบัติเกี่ยวกับการจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการกับความเครียด และการจัดการด้านการสูบบุหรี่ เพื่อพัฒนาภาวะสุขภาพ
6. พยาบาลผู้ดูแลใช้เทคนิคการมีส่วนร่วมและการโต้ตอบในการให้ข้อมูลการจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน นอกจากนี้แล้วพยาบาลผู้ดูแลและผู้ป่วยร่วมกันสรุปเน้นย้ำข้อมูลสำคัญที่ได้รับบเพื่อสร้างเสริมความเข้าใจที่ถูกต้อง
7. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัว ร่วมกันอภิปรายและกระตุ้นให้ผู้ป่วยได้กำหนดเป้าหมายระยะสั้น (2 สัปดาห์) ระยะยาว (8 สัปดาห์) และแผนปฏิบัติการในการพัฒนาพฤติกรรมสุขภาพที่รวมไปถึงวัตถุประสงค์เฉพาะ แนวทางการปฏิบัติที่ทำให้บรรลุเป้าหมายที่กำหนดไว้ วิธีการประเมินผล และช่วงเวลา โดยผู้ป่วยเป็นผู้กำหนดลำดับความสำคัญของการจัดการพฤติกรรมสุขภาพด้วยตนเองและวางแผนการจัดการพฤติกรรมสุขภาพที่ต้องการปฏิบัติ 2 เรื่องในช่วงสัปดาห์แรก ปฏิบัติเพิ่มเติมอีก 2 เรื่องในสัปดาห์ที่ 2 และปฏิบัติการจัดการพฤติกรรมสุขภาพทั้ง 4 เรื่องอย่างต่อเนื่องตั้งแต่สัปดาห์ที่ 2 จนถึงสัปดาห์ที่ 8
8. พยาบาลผู้ดูแลสร้างเสริมความมั่นใจให้กับผู้ป่วยในการบรรลุเป้าหมายตามที่กำหนดไว้ โดยการกำหนดเกณฑ์ขั้นต่ำในระยะสั้นและเพิ่มเติมเกณฑ์แบบค่อยเป็นค่อยไปทีละขั้นอย่างต่อเนื่องเพื่อให้บรรลุเป้าหมายระยะยาว
9. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัว ร่วมกันตรวจสอบเป้าหมายที่กำหนดไว้ให้มีความสัมพันธ์สอดคล้องกับการจัดการพฤติกรรมสุขภาพที่ช่วยลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจเพื่อเป็นการพัฒนาพฤติกรรมสุขภาพ ภาวะสุขภาพและคุณภาพชีวิตที่ดี

10. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัวลงนามในแผนปฏิบัติการการจัดการพฤติกรรมสุขภาพของผู้ป่วย
11. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัว ทบทวนทักษะและแนวปฏิบัติเกี่ยวกับการจัดการพฤติกรรมสุขภาพเพื่อส่งเสริมให้ผู้ป่วยมีความรู้สึกมั่นใจในการจัดการพฤติกรรมสุขภาพในทุกขั้นตอน
12. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัว ร่วมกันอภิปรายในประเด็นการนำข้อมูลความรู้ที่ได้รับและทักษะการจัดการภาวะสุขภาพไปประยุกต์ใช้ในการดำเนินชีวิตประจำวันให้เหมาะสมกับตนเอง และมีการบริหารจัดการเวลาเพื่อให้ความสำคัญกับการจัดการพฤติกรรมสุขภาพ
13. พยาบาลผู้ดูแลและผู้ป่วยร่วมกันกำหนดพฤติกรรมสุขภาพที่ผู้ป่วยต้องมีการกำกับติดตามประเมินผล และบันทึกลงในสมุดบันทึกคู่ใจทุกวัน ตามที่ผู้ป่วยได้กำหนดการจัดการพฤติกรรมสุขภาพ 2 เรื่องในสัปดาห์แรก และ 4 เรื่องตั้งแต่สัปดาห์ที่ 2 เพื่อกระตุ้นให้ผู้ป่วยได้มีการจัดการพฤติกรรมสุขภาพอย่างต่อเนื่อง
14. พยาบาลผู้ดูแลซักซ้อมและทำความเข้าใจกับผู้ป่วยในการใช้เทคนิคการกำกับติดตามและประเมินผลตนเองโดยการบันทึกการจัดการพฤติกรรมสุขภาพ 4 เรื่องตามที่กำหนดไว้ในสมุดบันทึกคู่ใจ
15. ผู้ป่วยบันทึกการจัดการพฤติกรรมสุขภาพตามที่กำหนดไว้ในสมุดบันทึกคู่ใจทุกวันตั้งแต่จำหน่ายออกจากโรงพยาบาลจนถึงสัปดาห์ที่ 8 เพื่อพัฒนาพฤติกรรมสุขภาพ (บันทึกการจัดการพฤติกรรมสุขภาพที่เลือกปฏิบัติ 2 เรื่องในสัปดาห์แรก และ บันทึกการจัดการพฤติกรรมสุขภาพ 4 เรื่องตั้งแต่สัปดาห์ที่ 2 จนถึงสัปดาห์ที่ 8)
16. พยาบาลผู้ดูแลซักถามผู้ป่วยถึงผลกระทบที่คาดว่าจะเกิดขึ้นจากการบรรลุผลสำเร็จและไม่สำเร็จในจัดการพฤติกรรมสุขภาพ
17. ผู้ป่วยตอบแบบสอบถามความรู้เกี่ยวกับโรคหลอดเลือดหัวใจ โดยต้องผ่านเกณฑ์มาตรฐาน 75% ในแต่ละวัตถุประสงค์ ก่อนที่จะผ่านไปสู่ขั้นตอนต่อไปของโปรแกรมการพยาบาลแบบรวบยอด ถ้ายังไม่ผ่านตามเกณฑ์ที่กำหนดไว้ จะมีการดำเนินกิจกรรมครั้งที่ 2 นี้ อีกครั้งในวันต่อไป
18. ผู้ป่วยใช้เทคนิคการเรียนรู้ด้วยตนเองโดยการศึกษาคู่มือผู้ป่วยโรคหลอดเลือดหัวใจได้ตลอดเวลาเพื่อสร้างเสริมความเข้าใจและความสามารถในการจัดการพฤติกรรมสุขภาพโดยมีการดูแลช่วยเหลือจากสมาชิกครอบครัว

19. พยาบาลผู้ดูแลยกตัวอย่างกรณีศึกษาที่ไม่ประสบความสำเร็จในการในการจัดการตนเองเกี่ยวกับโรคหลอดเหลือดหัวใจ ที่พัฒนาขึ้นจากสถานการณ์จริง และบอกถึงผลกระทบด้านลบที่เกิดขึ้นตามมา และกระตุ้นให้ผู้ป่วยได้ร่วมวิเคราะห์สถานการณ์โดยใช้คำถามว่า ท่านรู้สึกอย่างไรถ้าสถานการณ์นั้นเกิดขึ้นกับตัวท่าน และท่านจะทำอะไรต่อไป
20. พยาบาลผู้ดูแลแนะนำและสอนให้ผู้ป่วยได้เสริมแรงและสร้างกำลังแรงใจให้กับตนเองเมื่อประสบความสำเร็จในการจัดการพฤติกรรมสุขภาพโดยใช้วัตถุสิ่งของหรือคำพูดเพื่อเป็นการสร้างแรงจูงใจให้สร้างเสริมสุขภาพที่ดีมากขึ้น
21. พยาบาลผู้ดูแลสอนให้สมาชิกครอบครัวใช้วิธีการเสริมสร้างแรงจูงใจให้กับผู้ป่วยในการปฏิบัติให้บรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพโดยใช้การเสริมแรงจากวัตถุสิ่งของและคำพูด
22. พยาบาลผู้ดูแลใช้คำพูดในการเสริมสร้างแรงจูงใจเมื่อผู้ป่วยสามารถจัดการพฤติกรรมสุขภาพได้ตามเป้าหมายที่กำหนดไว้เพื่อการส่งเสริมให้มีสุขภาพที่ดีมากยิ่งขึ้น
23. ผู้ป่วยเริ่มต้นฝึกปฏิบัติในการจัดการพฤติกรรมสุขภาพตามที่กำหนดไว้ โดยมีการช่วยเหลือจากสมาชิกครอบครัว

การประเมินผล:

ผู้ป่วยสามารถบอกได้ถึงความรู้ ความเข้าใจเกี่ยวกับโรคหลอดเลือดหัวใจ ปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ และการตระหนักถึงความสำคัญในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจโดยผู้ป่วยสามารถกำหนดเป้าหมายระยะสั้นและระยะยาวรวมไปถึงวิธีปฏิบัติในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันได้ และสามารถทำแบบสอบถามความรู้เกี่ยวกับโรคหลอดเลือดหัวใจได้ผ่านเกณฑ์อย่างน้อยร้อยละ 75 รวมไปถึงการวางแผนกำกับติดตาม ประเมินผล และบันทึกการจัดการพฤติกรรมสุขภาพลงในสมุดบันทึกคู่ใจได้อย่างถูกต้อง

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ครั้งที่ 3: **การกำกับติดตามและประเมินผลการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงโรคหลอดเลือดหัวใจระยะสั้น**

วันที่: 2 สัปดาห์หลังการจำหน่ายออกจากโรงพยาบาล

ระยะเวลา: 60 นาที

สถานที่: บ้านผู้ป่วย

บุคคลที่เกี่ยวข้อง: พยาบาลผู้ดูแล ผู้ป่วย และสมาชิกครอบครัว

วัตถุประสงค์:

1. เพื่อส่งเสริมให้ผู้ป่วยได้ปฏิบัติในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันได้อย่างต่อเนื่อง
2. เพื่อกำกับติดตามและประเมินผลเป้าหมายระยะสั้นในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจของผู้ป่วย
3. เพื่อส่งเสริมให้ผู้ป่วยได้มีการปรับการจัดการพฤติกรรมสุขภาพเพื่อให้บรรลุเป้าหมายตามที่กำหนดไว้และเพิ่มระดับการจัดการพฤติกรรมสุขภาพตามที่คาดหวังบนพื้นฐานของข้อมูลจากสมุดบันทึกคู่ใจและการประเมินผลของผู้ป่วย
4. เพื่อส่งเสริมให้ผู้ป่วยได้ใช้ประโยชน์จากคู่มือผู้ป่วยโรคหลอดเลือดหัวใจ วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจและการดูแลช่วยเหลือสนับสนุนจากสมาชิกครอบครัว
5. เพื่อสนับสนุนให้ผู้ป่วยได้มีการจัดการตนเองอย่างต่อเนื่องเพื่อก่อให้เกิดการเปลี่ยนแปลงของสถานะสุขภาพและการพัฒนาคุณภาพชีวิต
6. เพื่อประเมินความสามารถในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจตามเกณฑ์มาตรฐานของการเข้าร่วมโปรแกรมการพยาบาลแบบรวบยอด 75%

สื่อ:

1. คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ
2. วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ
3. สมุดบันทึกคู่ใจของผู้ป่วยโรคหลอดเลือดหัวใจ เพื่อบันทึกการจัดการพฤติกรรมสุขภาพ
4. แผนปฏิบัติการการจัดการพฤติกรรมสุขภาพในสมุดบันทึกคู่ใจ

กิจกรรม:

1. ผู้ป่วยใช้เทคนิคการหายใจแบบลึก ๆ ก่อนที่จะเริ่มกิจกรรมของโปรแกรมการพยาบาลแบบรวบยอด

2. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัวร่วมกันทบทวนข้อมูลสำคัญเกี่ยวกับโรคหลอดเลือดหัวใจประกอบการใช้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ และทบทวนการปฏิบัติในการจัดการพฤติกรรมสุขภาพประกอบการใช้วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจเพื่อสร้างเสริมให้ผู้ป่วยบรรลุเป้าหมายระยะสั้นในการจัดการพฤติกรรมสุขภาพตามที่กำหนดไว้
3. ผู้ป่วยมีการปฏิบัติการจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน อย่างต่อเนื่องที่บ้านโดยมีการดูแลช่วยเหลือจากสมาชิกครอบครัว
4. พยาบาลผู้ดูแลถามผู้ป่วยว่าท่านมีวิธีการนำความรู้ที่ได้รับไปประยุกต์ใช้ในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจได้อย่างไร และท่านมีปัญหาอะไรในการจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน
5. ผู้ป่วยบอกถึงการประยุกต์การจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันและจัดการแก้ไขปัญหาที่เกิดขึ้นด้วยตนเองได้
6. ผู้ป่วยนำเสนอถึงการประเมินผลและการปรับการจัดการพฤติกรรมสุขภาพของตนเองเพื่อให้บรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพระยะสั้นตามที่กำหนดไว้
7. พยาบาลผู้ดูแลติดตามตรวจสอบประเมินผลการจัดการพฤติกรรมสุขภาพตามเป้าหมายระยะสั้นที่กำหนดไว้โดยพิจารณาข้อมูลจากการนำเสนอของผู้ป่วย สมุดบันทึกคู่ใจและแผนปฏิบัติการของผู้ป่วย
8. พยาบาลผู้ดูแล ผู้ป่วยและสมาชิกครอบครัว ร่วมกันอภิปรายเกี่ยวกับความถูกต้อง การประสบความสำเร็จ ในการจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน และการบันทึกสมุดบันทึกคู่ใจ
9. ถ้าผู้ป่วยสามารถปฏิบัติได้ตามเกณฑ์มาตรฐาน พยาบาลผู้ดูแลพูดยกย่องชมเชยเพื่อให้ผู้ป่วยได้มีการปฏิบัติการจัดการพฤติกรรมสุขภาพอย่างต่อเนื่อง
10. ผู้ป่วยประเมินผลถึงสาเหตุ ผลกระทบที่เกิดขึ้นของการประสบความสำเร็จหรือความล้มเหลวในการจัดการตนเองเพื่อให้บรรลุพฤติกรรมสุขภาพตามที่กำหนดไว้ได้ และบอกได้ถึงระดับแรงจูงใจในการจัดการตนเองให้บรรลุเป้าหมายที่กำหนดได้
11. ผู้ป่วยอธิบายถึงความรู้สึกที่เกิดขึ้นจากการจัดการพฤติกรรมสุขภาพที่ประสบความสำเร็จหรือล้มเหลวได้
12. พยาบาลผู้ดูแลและผู้ป่วยร่วมกัน วิเคราะห์ ประเมินผล และปรับแผนปฏิบัติการใหม่เพื่อให้ผู้ป่วยได้มีการจัดการพฤติกรรมสุขภาพเพิ่มมากขึ้นกว่าที่กำหนดไว้

13. ผู้ป่วยกำกับติดตาม ประเมินผล และเพิ่มระดับในการจัดการพฤติกรรมสุขภาพ ตามการรับรู้ความตระหนัก ประสบการณ์ และความพึงพอใจของตนเอง
14. พยาบาลผู้ดูแลกระตุ้นให้ผู้ป่วยได้มีการบริหารจัดการเวลาโดยให้ความสำคัญเรื่องสุขภาพเป็นหลัก
15. พยาบาลผู้ดูแลยกตัวอย่างเทคนิคการควบคุมสิ่งเร้าเกี่ยวกับการจัดการพฤติกรรมสุขภาพ ได้แก่ การจัดการด้านสิ่งแวดล้อมด้านกายภาพ ความมั่นใจในตนเองในการบรรลุเป้าหมายตามที่กำหนดไว้ และการดูแลช่วยเหลือจากสมาชิกครอบครัว
16. พยาบาลผู้ดูแลและผู้ป่วยร่วมกันอภิปรายทางเลือกที่ดีในการจัดการพฤติกรรมสุขภาพและผลกระทบที่เกิดขึ้นจากการมีการจัดการพฤติกรรมสุขภาพตามที่ปรารถนา
17. พยาบาลผู้ดูแลอธิบายผลกระทบด้านลบจากการมีพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจ เพื่อให้ผู้ป่วยได้มีการตอบสนองต่อการเป็นผู้ป่วยโรคหลอดเลือดหัวใจได้อย่างเหมาะสม
18. พยาบาลผู้ดูแลถามผู้ป่วยว่า ท่านรู้สึกอย่างไร ท่านคิดอย่างไรเกี่ยวกับผลกระทบด้านลบจากพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจของท่าน
19. ผู้ป่วยใช้วิธีการเสริมสร้างแรงจูงใจในตนเองในการปฏิบัติให้บรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพโดยใช้การเสริมแรงจากวัตถุสิ่งของและคำพูดที่ส่งเสริมให้มีสุขภาพที่ดีมากยิ่งขึ้น
20. สมาชิกครอบครัวใช้วิธีการเสริมสร้างแรงจูงใจให้กับผู้ป่วยในการปฏิบัติให้บรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพโดยใช้การเสริมแรงจากวัตถุสิ่งของและคำพูดที่ส่งเสริมให้มีสุขภาพที่ดีมากยิ่งขึ้น
21. พยาบาลผู้ดูแลใช้คำพูดในการเสริมสร้างแรงจูงใจเพื่อให้ผู้ป่วยสามารถจัดการพฤติกรรมสุขภาพได้เพิ่มมากขึ้นกว่าเป้าหมายที่กำหนดไว้
22. ผู้ป่วยใช้เทคนิคการเรียนรู้ด้วยตนเองโดยการศึกษาคู่มือผู้ป่วยโรคหลอดเลือดหัวใจ และวิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจได้ตลอดเวลาเพื่อสร้างเสริมความเข้าใจและความสามารถในการจัดการพฤติกรรมสุขภาพโดยมีการดูแลช่วยเหลือจากสมาชิกครอบครัว
23. ผู้ป่วยกำกับติดตามและบันทึกการจัดการพฤติกรรมสุขภาพของตนเองในสมุดบันทึกคู่ใจทุกวันโดยการดูแลช่วยเหลือสนับสนุนและย้ำเตือนจากสมาชิกครอบครัว
24. ผู้ป่วยและสมาชิกครอบครัวสามารถขอคำแนะนำปรึกษาจากพยาบาลผู้ดูแลได้ตลอดเวลาทางโทรศัพท์

25. ผู้ป่วยตอบแบบสอบถามความสามารถในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจ โดยต้องผ่านเกณฑ์มาตรฐาน 75% ก่อนที่จะผ่านไปสู่ขั้นตอนต่อไปของโปรแกรมการพยาบาลแบบรวบยอด ถ้ายังไม่ผ่านตามเกณฑ์ที่กำหนดไว้ จะมีการดำเนินกิจกรรมครั้งที่ 3 นี้ อีกครั้งในวันต่อไป

การประเมินผล:

ผู้ป่วยบอกได้ถึง ความรู้ ความเข้าใจ เกี่ยวกับโรคหลอดเลือดหัวใจ มีการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงโรคหลอดเลือดหัวใจของตนเองในการดำเนินชีวิตประจำวันอย่างต่อเนื่องทั้ง 4 ด้าน มีการกำกับติดตามและบันทึกการจัดการพฤติกรรมสุขภาพลงในสมุดบันทึกคู่ใจทุกวัน มีการเสริมสร้างแรงจูงใจในการปรับเปลี่ยนและเพิ่มการจัดการพฤติกรรมสุขภาพเพื่อให้บรรลุเป้าหมายระยะสั้นและเป้าหมายที่สูงยิ่งขึ้นได้อย่างเหมาะสม รวมไปถึงมีการใช้ประโยชน์จากแหล่งการเรียนรู้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจและการดูแลช่วยเหลือจากสมาชิกครอบครัว รวมถึงผู้ป่วยสามารถทำแบบสอบถามความสามารถในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจได้ผ่านเกณฑ์อย่างน้อยร้อยละ 75

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ครั้งที่ 4: **การกำกับติดตามและสร้างเสริมแรงจูงใจในการจัดการตนเองของผู้ป่วยโรคหลอดเลือดหัวใจอย่างต่อเนื่อง**

วันที่: สัปดาห์ที่ 4 และ สัปดาห์ที่ 6 หลังจำหน่ายออกจากโรงพยาบาล

ระยะเวลา: 10-15 นาที

สถานที่: พยาบาลผู้ดูแลติดต่อผู้ป่วยโดยการใช้โทรศัพท์

บุคคลที่เกี่ยวข้อง: พยาบาลผู้ดูแล ผู้ป่วย และสมาชิกครอบครัว

วัตถุประสงค์:

1. เพื่อสร้างแรงจูงใจ กำกับติดตาม และประเมินผลผู้ป่วยในการจัดการพฤติกรรมสุขภาพและการบันทึกในสมุดบันทึกคู่ใจอย่างต่อเนื่องและสม่ำเสมอ
2. เพื่อกระตุ้นและส่งเสริมให้ผู้ป่วยได้มีการตัดสินใจแก้ไขปัญหาสุขภาพที่เกิดขึ้นอย่างถูกต้องเหมาะสม
3. เพื่อกำกับติดตาม ประเมินผล และกระตุ้นส่งเสริมให้ผู้ป่วยได้มีการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจเพื่อก่อให้เกิดการเปลี่ยนแปลงภาวะสุขภาพและการพัฒนาคุณภาพชีวิตที่ดี

สื่อ:

1. โทรศัพท์
2. สมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจ

กิจกรรม:

1. พยาบาลผู้ดูแลโทรศัพท์หาผู้ป่วยและร่วมกันอภิปรายเกี่ยวกับการจัดการพฤติกรรมสุขภาพและการบันทึกลงในสมุดบันทึกคู่ใจ
2. พยาบาลผู้ดูแลพูดคุยกับผู้ป่วยเพื่อสร้างแรงจูงใจในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจรวมถึงการบันทึกลงในสมุดบันทึกคู่ใจอย่างต่อเนื่องสม่ำเสมอ
3. พยาบาลผู้ดูแลและผู้ป่วยอภิปรายเกี่ยวกับปัญหาในการจัดการพฤติกรรมสุขภาพและการบันทึกลงในสมุดบันทึกคู่ใจ เพื่อปรับเปลี่ยนวิธีการที่สำคัญในการจัดการเพื่อให้มีพฤติกรรมสุขภาพตามที่ปรารถนา
4. ผู้ป่วยบอกได้ถึงความรู้สึกของตนเองภายหลังการจัดการพฤติกรรมสุขภาพ
5. ผู้ป่วยใช้ผลกระทบด้านลบในการหยุดยั้งพฤติกรรมที่ไม่ปรารถนาและใช้ผลกระทบด้านบวกในการสร้างแรงจูงใจให้มีการจัดการพฤติกรรมสุขภาพตามที่ปรารถนาอย่างต่อเนื่อง

6. พยาบาลผู้ดูแลสะท้อนให้ผู้ป่วยได้คิดตัดสินใจในการแก้ไขปัญหาสุขภาพที่เกิดขึ้นอย่างมีประสิทธิภาพ
7. ผู้ป่วยชี้ให้เห็นถึงการเปลี่ยนแปลงของพฤติกรรมสุขภาพที่กิดขึ้นกับตนเองและมีการประเมินการจัดการพฤติกรรมสุขภาพของตนเองที่สอดคล้องและต่อเนื่อง
8. พยาบาลผู้ดูแลใช้คำพูดเพื่อสร้างเสริมแรงจูงใจให้กับผู้ป่วยเมื่อผู้ป่วยสามารถบรรลุการจัดการพฤติกรรมสุขภาพเพื่อส่งเสริมให้มีสุขภาพที่ดีมากขึ้น
9. พยาบาลผู้ดูแลกระตุ้นและชักชวนให้ผู้ป่วยใช้ประโยชน์จากการช่วยเหลือและสนับสนุนทางสังคมจากสื่อของโปรแกรมการพยาบาลแบบรวบยอดโดยการศึกษาเรียนรู้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ และการดูแลช่วยเหลือจากสมาชิกครอบครัว

การประเมินผล:

ผู้ป่วยบอกได้ถึงการจัดการพฤติกรรมสุขภาพและการบันทึกลงในสมุดบันทึกคู่ใจอย่างสม่ำเสมอ มีการตัดสินใจในการแก้ไขปัญหาสุขภาพที่เกิดขึ้นอย่างมีประสิทธิภาพ มีการกำกับติดตาม ประเมินผล และการสร้างเสริมสร้างแรงจูงใจของตนเองในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจที่ก่อให้เกิดการเปลี่ยนแปลงสุขภาพและการพัฒนาคุณภาพชีวิตได้

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ครั้งที่ 5: **การประเมินผลการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงโรคหลอดเลือดหัวใจระยะยาว**

วันที่: สัปดาห์ที่ 8 หลังจำหน่ายออกจากโรงพยาบาล

ระยะเวลา: 20-30 นาที

สถานที่: ห้องประชุมแผนกผู้ป่วยนอกของโรงพยาบาล

บุคคลที่เกี่ยวข้อง: พยาบาลผู้ดูแล ผู้ป่วย และสมาชิกครอบครัว

วัตถุประสงค์

1. เพื่อติดตามประเมินผลการจัดการพฤติกรรมสุขภาพของผู้ป่วยโรคหลอดเลือดหัวใจตามเป้าหมายระยะยาว
2. เพื่อส่งเสริมให้ผู้ป่วยมีการปฏิบัติการในการจัดการตนเองในการดำเนินชีวิตประจำวันอย่างต่อเนื่อง
3. เพื่อเปิดโอกาสให้ผู้ป่วยได้ซักถามข้อสงสัยและส่งเสริมให้ผู้ป่วยได้มีการเผยแพร่ความรู้และประสบการณ์ที่ได้รับกับบุคคลอื่น

กิจกรรม

1. พยาบาลผู้ดูและผู้ป่วยร่วมกันประเมินผลการบรรลุเป้าหมายการจัดการพฤติกรรมสุขภาพระยะยาวโดยพิจารณาข้อมูลจากการรายงานของผู้ป่วย และสมุดบันทึกคู่ใจผู้ป่วยโรคหลอดเลือดหัวใจ
2. พยาบาลผู้ดูแลเปิดโอกาสให้ผู้ป่วยได้ซักถามข้อสงสัยเกี่ยวกับการจัดการตนเองเมื่อเป็นโรคหลอดเลือดหัวใจ
3. พยาบาลผู้ดูแลขอบคุณผู้ป่วยที่เข้าร่วมโครงการและให้กำลังใจผู้ป่วยในการจัดการตนเองอย่างต่อเนื่องสม่ำเสมอ

การประเมินผล

ผู้ป่วยมีการปฏิบัติการในการจัดการตนเองในการดำเนินชีวิตประจำวันอย่างต่อเนื่องสม่ำเสมอ แม้จะสิ้นสุดโครงการของโปรแกรมการพยาบาลแบบรวบยอดแล้วก็ตาม

Appendix G

Timetable of contract with subjects

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Table 8 Timetable of contract with subjects

Time/Place	Activity	Groups	Measures/Media
1. The second day of admission/ Medical ward	Collecting data for pretest, and assess risky health behaviors	Control and experimental groups	- Medical record - Personal data and the health behaviors related to cardiac risk factors questionnaire - The quality of life index-cardiac version IV
2. The third day of admission/ Medical ward	The comprehensive cardiac nursing program: 1st session implementation	Experimental group	-The coronary heart disease booklet - The diary heart book
3. The third day of admission/ Medical ward	The comprehensive cardiac nursing program: 2nd session implementation	Experimental group	- DVD; risky health behaviors management of CHD patients - The diary heart book - The coronary heart disease's knowledge questionnaire
4. The second week after discharge/ Participant's home	The comprehensive cardiac nursing program: 3rd session implementation	Experimental group	-The coronary heart disease booklet - DVD; risky health behaviors management of CHD patients - The coronary heat disease's self-management questionnaire
5. The forth and six week after discharge/ Participant's home via - telephone call	The comprehensive cardiac nursing program: 4th session implementation	Experimental group	- The diary heart book
6. The eight week after discharge/ Out-patient department	The comprehensive cardiac nursing program: 5th session implementation	Experimental group	- The diary heart book
7. The eight week after discharge/ Out-patient department	Collecting data for posttest	Control and experimental groups	- Medical record - Personal data and the health behaviors related to cardiac risk factors questionnaire - The Quality of life Index-Cardiac version IV

Appendix H

The Comprehensive Cardiac Nursing Program Implementation

(English Version)

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Table 9 The Comprehensive Cardiac Nursing Implementation Manual

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
<u>Session 1</u> The second day of admission/ (45 minutes)/ Meidcal ward/Interve ner, Research assistant, Participant, and family member	1. To develop relationships.	1. Research assistant, Intervener, participant, and family member introduce yourselves.		- Good relationships.
	2. To obtain significant baseline data.	1. Research assistant records the data from medical and laboratory investigation for pretest. 2. Research assistant obtains the significant data from participant and participant completes all questionnaires for pretest including; a) Personal data by using personal questionnaire. b) Health behaviors related to cardiac risk factors by using The Health Behavior related to Cardiac Risk Factors Questionnaire c) Health related quality of life by using QLI-cardiac version IV		- All significant data were recorded.
	3. To introduce and describe the main component of the CCNP program.	1. Intervener introduces an orientation about CCNP by describing objectives and providing overview of the program. 2. Intervener, participant and family member make appointment 1 times at hospital in the third day of admision, 1 times of home visiting at participant's home in 2 weeks after discharge for short term evaluation, 2 times of telephone call for monitoring, evaluating, and reinforcement at 4 and 6 weeks after discharge, and 8 week after discharge at out-patient department for long term evaluation and terminate the program.	- Appoint ment schedule	- Participant understands, admires, and cooperates in the program.
	4. To provide	1. Intervener encourages participant and family member to	- Family	- Participant expresses

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	psychosocial support and help participant for using the advantage of psychosocial support from media, intervener, and family member.	express the feeling of being CHD patient. 2. Intervener and family member use enacting motivation, and emphasize the motivation for using the media resources. 3. Participant and family can consult the intervener by telephone call at any time.	member - Booklet	the feeling of being CHD patient and receives psychosocial support from media, intervener, and family member.
	5. To prepare participant for readiness to cooperate in all activities.	1. Intervener train participant to practice deep breathing technique and use deep breathing previously starts each session of the program and every morning.		- Participant relax and readiness for cooperating all activities.
	6. To encourage participant for improving his/her confidence by using role model scenario.	1. Intervener uses the role model by giving the successful role model scenario to help participant for energizing action, deeper commitment to act toward the goals and increase readiness to act.	- The successful role model scenario	- Participant describes his/her self confidence to accomplish the self management goals.
	7. To enhance participant to accept his/her changing health status to live with serious	1. Intervener explains participant to respond to chronic illness by managing stress, managing the changing roles and multiple roles integration, and managing his/her health behaviors. 2. Intervener encourage participant to use problem-solving, anticipating of behavior, and maintenance of new		- Participant describes his/her perception about the significant of health behavior management and accepts the changing of health status by using

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	progressive life threatening chronic disease as CHD.	behaviors by using the question "How to cope with obstacles that may encountered? 3. Intervener and family member encourage participant to help them determine about the correct choice for getting better health behaviors. 4. Intervener promote the self-management or prevent self-management failure by a) Using family member cooperate in this program for environmental support. b) Using booklet and DVD for enhancing knowledge and practice skills. c) Using the incentive for manages his/her risk behavior by explaining the negative consequences if he/she didn't manage the target behaviors and explaining the positive consequences if he/she manages the target health behaviors.	- Family Member - Booklet and DVD	effective management strategies. - Participant describes his/her practice skill for modifying his/her risk behaviors. - Participant uses effective management strategies for responding to CHD.
	8. To assess the previous knowledge and experiences about CHD of participant.	1. Intervener assesses the previous knowledge and experiences about CHD of participant by asking questions about CHD and reviews the result from Health Behaviors related to Cardiac Risk Factors Questionnaire.		- Participant describes his/her previously knowledge and experience about CHD.
	9. To support participant for understanding about CHD,	1. Intervener provides information about CHD, cardiac risk factors, and CHD patients' health behaviors management that increase the significant of health behavior management related to decrease cardiac risk factors include the topic of	- Booklet	- Participant listens, discusses, and answers the questions about CHD, cardiac risk

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	cardiac risk factors, and CHD patients' health behaviors management.	cardiac risk factors, pathophysiology, clinical course of disease, risky health behaviors that affect worse progressive of CHD, management, complication, and health behavior management related to cardiac risk factors reduction (Ornish, 1990; 1998; Thompson & Bowman, 1998).		factors, and CHD patients' health behaviors management. - Participant presents his/her knowledge about CHD, cardiac risk factors, and CHD patients' health behaviors management.
Session 2 The third day of admission/ (60 minutes)/ Medical ward/ Intervener, Participant, and family member	1. To prepare participant for readiness to cooperate in all activities.	1. Participant uses technique of deep breathing before start this session.		- Participant relax and readiness for cooperating all activities.
	2. To discuss, review, and emphasize about CHD, cardiac risk factors, and CHD patients' health behaviors management related to cardiac risk factors reduction.	1. Intervener and participant discuss, review, and emphasize about CHD, cardiac risk factors, and CHD patients' health behaviors management related to cardiac risk factors reduction. 2. Participant describes his/her cardiac risk factors and health behavior management related to cardiac risk factor reduction.	-	- Participant describes his/her concern about the relationship among CHD, cardiac risk factor, and CHD patients' health behaviors management related to cardiac risk factors reduction.
	3. To enhance participant's	1. Intervener demonstrates, anticipatory practice, and prehearsal all desired health behaviors including diet	- DVD	- Participant listens, discusses, and answers

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	knowledge and management skill for managing health behaviors related to cardiac risk factor reduction.	management, physical activities and exercise management, stress management, and smoking cessation management; after that participant demonstrate and anticipatory practice the tasks and skills with family member under supervision of intervener at hospital and continuing practice to his/her home. 2. Intervener and participant conclude and emphasize about the significant information for better understanding. 3. Intervener uses the interactive techniques for providing information, booklet, and VCD. 5. Participant uses the technique of self-instruction by using the utilization resource of booklet, and supporting from family member that he/she can review the booklet at any time for more understanding and managing health behavior.	- Booklet and DVD	the questions about CHD, cardiac risk factors, and CHD patients' health behaviors management related to cardiac risk factors reduction. - Participant presents his/her knowledge and management of health behaviors skill related to cardiac risk factor reduction.
	4. To enhance participant for increasing the awareness of his/her cardiac risk factors.	1. Participant describes the relationship between cardiac risk factors and CHD. 2. Participant analyzes and describes his/her cardiac risk factors.		- Participant recognizes and describes the significant of his/her cardiac risk factors.
	5. To reinforce participant for health behaviors management, and to support participant for	1. Intervener describes the negative effect of his/her risky health behaviors for increasing the reactivity of response to be CHD patient 2. Intervener asks the participant "how do you feel? What do you think about the negative effect of his/her risky health behaviors?"		- Participant describes his/her self reinforcement to manage his/her health behavior. - Participant uses appropriate self-

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	using appropriate self-reinforcement related to his/her goal achievement.	3. Participant imagines and describes the feeling when successful or failure the desired health behaviors. 4. Intervener and participant discuss and emphasize about the good choice of health behavior and the consequences from conduct the desired health behaviors. 5. Intervener teaches participant to use appropriate self-reinforcement related to accomplished the health behaviors management goals both the material reinforcement and verbal- symbolic self-reinforcement 6. Intervener uses the verbal reinforcement to participant when he/she accomplished the health behaviors management that related or promote their better health. 7. Participant use self-reinforcement when he/she accomplished the health behaviors management by using the material reinforcement and verbal- symbolic self-reinforcement. 8. Family member use the verbal and material reinforcement when participant accomplished the health behaviors management.		reinforcement related to his/her goal achievement. - Participant presents his/her performance of CHD patient's role.
	6. To help participant to set his/her short and long term goal for managing health behaviors related to cardiac risk factor reduction	1. Intervener gives the standard criteria that Coronary Heart Disease (CHD) patients should perform for improving their health. 2. Intervener, participant, and family member discuss and negotiate with participant to set individual goals and plans directed to their health behaviors including the short term goals 2 weeks (the first two selected health behavior management in the first week and add the last two selected	- The diary heart book - Action plan	- Participant presents his/her short and long term goal for managing health behaviors related to cardiac risk factor reduction including objective, measurement, time frame, and goal

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	including objective, measurement, time frame, and goal attainment.	health behavior management in the second weeks) and the long tern goals 8 weeks (continuing all 4 health behaviors management) in which to measure and to achieve including in the aspects of; specificity of objectives, time frame and goal attainment. 3. Intervener enhance self-confidence of participant by set the minimum criteria in a short term goal, and then increase the criteria step by step. 4. Intervener, participant, and family member determine the goals that should be relevant to health behavior management related to reduce cardiac risk factors which improve their health behavior, health status, and HRQOL.		attainment.
	7. To monitor and evaluate his/her health behavior management. 8. To promote participant for correct monitoring, and recording his/her health behaviors in the diary heart book.	1. Intervener and participant set target health behaviors that should be monitored and recorded in the diary heart book every day that including the first 2 selected health behavior management in the first week and add the last 2 selected health behavior management since two weeks to foster continuing health behavior management. 2. Intervener rehearse the entire self-monitoring by using the diary heart book with the participant and review following each session of target behaviors were assigned. 3. Participant record his/her target health behavior that should be monitored in the diary heart book every day after discharge home until 8 weeks to improve health behavior. 4. Participant monitors and records their target health behavior management in the diary heart book in the easy way, unobtrusive, convenience, validity and reliability for	- The diary heart book - Family member	- Participant correctly monitors, and records his/her health behavior management in diary heart book every day.

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
		lay person that include a short answer, record the number, and open ended recording by supporting and reminding from family member.		
	9. To promote participant self management by using sign contract technique.	1. Intervener, participant, and family member sign a contract that present the participant health behavior management.	- The diary heart book - Family member	- Participant signs contract with family member and intervener for promoting health behavior management related to cardiac risk factors reduction.
	10. To help participant for practicing and managing his/her health behavior related to cardiac risk factors reduction into daily life.	1. Intervener, participant, and family member discusses "How the information and practice skills can be tailored to fit for the participant's daily routine", "How to manage the timing of his/her daily life". 2. Participant is asked to imagine the consequences of accomplished or not accomplished the desired health behaviors by intervener. 3. Participant starts to practice and manage their selected target health behaviors at his/her home by supporting from family member.	- Family member	- Participant practice and manage his/her health behavior related to cardiac risk factors reduction into daily life.
	11. To evaluate participant for achieving the standard criteria of this CCRP (75%).	1. Participant presents their CHD knowledge through the test by using "The Coronary Heart Disease Patient's Management Questionnaire" to meet the standard criteria of this program before continuing into the next session.	-	- Participant takes the test and passes the standard criteria of this program. If he/she doesn't pass the standard criteria (75%), the implementation of this

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
				session will take place again tomorrow.
<u>Session 3</u> Two weeks after discharge/ (60 minutes)/ Participant's home/ Intervener, Participant, and family member	1. To prepare participant for readiness to cooperate in all activities.	1. Participant use techniques of deep breathing before start this session.	-	- Participant relax and readiness for cooperating all activities.
	2. To prepare and support participant for gain more knowledge, understanding, and practicing about CHD self management.	1. Intervener provides the CHD self management information both review information about CHD and practice skill for desired health. 2. Intervener reviews, discusses, and encourages participant for solving the problems about practicing risky health behaviors management. 3. Intervener uses the interactive techniques for reviewing previously information and providing the CHD self management information by using booklet, and DVD. 4. Participant reflects the usefulness of anticipatory of self-management to evoke and mobilize to action such as "I'm afraid these, then I do that…"	- Booklet and DVD	- Participant presents his/her knowledge, understanding, and practice for managing health behaviors related to cardiac risk factors reduction.
	3. To discuss, review, and emphasize about CHD, cardiac risk factors, and health behavior management related to cardiac	1. Intervener and participant discuss, review, and emphasize about CHD, cardiac risk factors, and health behavior management related to cardiac risk factors reduction. 2. Participant describes his/her cardiac risk factors and health behavior management related to cardiac risk factor reduction.	-	- Participant describes his/her concern about the relationship among CHD, cardiac risk factor, and health behavior management related to cardiac risk factors reduction.

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	risk factors reduction.			
	4. To monitor, analyze, and evaluate participant's health behaviors management related to cardiac risk factors reduction.	1. Participant monitors and records his/her health behavior in diary heart book every day by supporting and reminding from family member. 2. Intervener checks his/her target health behaviors; diet management, physical activity and exercise management, smoking management, and stress management from the diary heart book record. 3. Intervener, participant, and family member discuss about the correct, success, and failure recording diary heart book and use the assertive verbal reward to enhance the sensory awareness. 4. Intervener emphasizes the standard criteria that CHD patients should be conduct for improving his/her better health. 5. Intervener and participant analyze, evaluate, and critique his/her discrepancy between the standard criteria and their risky health behaviors including antecedent and consequence of discrepancy that relate to the aspect of intrapersonal and environment factors.	- The diary heart book - Family member	- Participant describes and demonstrates his/her health behavior management related to cardiac risk factors reduction.
	5. To support participant adjusts/reorganizes his/her health behavior management	1. Participant presents and evaluates the desired health behaviors of short term goal by using the data from the diary heart book and action plan. 2. Participant evaluates and makes adjustment about the recording health behavior data, and evaluates the antecedent and consequences of success and failure to	- The diary heart book - Action plan	- Participant presents his/her health behaviors management. - Participant demonstrates his/her appropriate making

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	related to data from the diary heart book for achieving the goals. 6. To support participant analyzes, evaluates, reframes expectation, and reorganize goals, plans, and strategies of health behavior management for necessary adjustment to increase the desired health behaviors.	reach the desired health behaviors or aspired criteria. 3. Intervener and participant evaluate, analyze and reorganize his/her goals, plans, and strategies for necessary adjustment of procedure to increase the desired health behaviors for achieving the goals. 4. Participant analyzes and recognizes his/her discrepancy between his/her risk factors/health behavior and standard criteria. 5. If he/she does not have the discrepancy in some management, the intervener uses the verbal statement to reinforce the participant to continue action. 6. Participant monitors, evaluates, and increases the activity level practicing assertive behaviors, and enhances sensory awareness of pleasurable experiences by him/herself. 7. Intervener encourage participant to undertaken more activities than he/she has been accomplishing and support them as he/she begin making behavior management.		adjustment to increase the desired health behaviors for achieving the goals related to data from the diary heart book and the goals. - Participant analyzes, evaluates, and reorganizes his/her goals, plans, and strategies for necessary adjustment to manage health behavior related to cardiac risk factors reduction.
	8. To promote participant continuing health behaviors management related to cardiac	1. Intervener, participant, and family member review the task, and practice skills of desired target health behaviors and also promote the participant's sense of self-efficacy in every session. 2. Participant continues practices and manages his/her target health behaviors at his/her home by supporting from	- Family member	- Participant describes and demonstrates the continuing health behaviors management related to cardiac risk factors reduction in

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
	risk factors reduction in everyday life.	family member.		everyday life.
	9. To support participant for using the utilization resource of booklet, and family member.	1. Participant uses the technique of self-instruction by using the utilization resource of booklet, and supporting from family member.	-Booklet -Family member	- Participant uses the utilization resource of booklet, and family member.
	11. To evaluate participant for achieving the standard criteria of this CCRP (75%).	1. Participant presents the CHD patients self-management through the test by using "The Coronary Heart Disease Patient's Management Questionnaire" to meet the standard criteria of this program before continuing into the next session.	-	- Participant takes the test and passes the standard criteria of this program. If he/she doesn't pass the standard criteria (75%), the implementation of this session will take place again tomorrow.
<u>Session 4</u> 4 and 6 week after discharge / (10-15 minutes)/ Participant's home and	1. To motivate, monitor, and evaluate participant for maintaining health behavior management and regular recording.	1. Intervener and participant discuss about his/her health behavior management and recording from the diary heart book. 2. Intervener talks to participant for motivating and maintaining health behavior management related to cardiac risk factors reduction and regular recording in the dairy heart book.	- Telephone - The diary heart book	- Participant describes his/her regular health behavior management and regular record in diary heart book.

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
Intervener's office by using telephone call/ Intervener, Participant, family member	2. To reinforce participant for using effective decision making to correct his/her health problems.	1. Intervener and participant discuss about the problems for managing his/her health behaviors and regular recording in the dairy heart book for necessary adjustment of procedure to increase the desired health behaviors. 2. Participant uses the negative reactions and outcomes to prohibit barrier to desired health behaviors and uses the positive reactions and outcomes to motivate the continuation of desired health behaviors. 3. Intervener reflects participant to correct his/her health problems by using effective decision making.		- Participant corrects his/health problems by using effective decision making.
	3. To monitor, evaluate, and reinforce participant's management of cognition, affective, and health behaviors which improve health status and HRQOL.	1. Participant describes the feeling after manage his/her health behaviors management. 2. Participant presents the significant health behavior change occurring to them and makes more consistent the assessment of health behavioral management. 3. Intervener uses the verbal reinforcement to participant when he/she accomplished health behaviors management that related to promote their better health. 4. Intervener encourage participant to develop plan for long term management of health behaviors, and use the advantage of social support from VCD and booklet's media, and family member.	-	- Participant present his/her monitor, evaluate, and reinforce participant's management of cognition, affective, and health behaviors which improve health status and HRQOL.
<u>Session 5</u> 8 weeks after discharge/ (45 minutes)/ Out-patients	1. To evaluate the long term goal of the participant for risky health behaviors	1. Intervener, participant, and family member evaluate the long term goal of the participant for risky health behaviors management. 2. Participant continues practices and manages his/her target health behaviors at his/her home with supporting	- The diary heart book	- Participant accomplished his/her long term goal.

Time/Place/ Person	Objectives	Implementation	Media	Evaluation/Expected outcome
department/ Intervener, Participant, family member, and research assistant	management.	from the family member in everyday life.		
	2. To obtain significant data for posttest.	1. Research assistant records the data from medical and laboratory investigation for posttest. 2. Research assistant obtains the significant data from participant and participant completes all questionnaires for posttest including; a) Personal data b) Health behaviors related to cardiac risk factors and c) Health related quality of life.		- All significant data were recorded for posttest.
	3. To promote participant for continue managing health behavior related to cardiac risk factors reduction in everyday life.	1. Intervener, participant, and family member review the significant CHD information, cardiac risk facfors, and CHD self-management. 2. Participant demonstrates the application of health behavior management related to cardiac risk factors reduction into daily living and managing his/her health behavior's problems. 3. Intervener encourage participant to administer and manage time with prioritizing your health. 4. Intervener gives the DVD to participant and family member.	- DVD	- Participant continues manage his/her health behavior management related to cardiac risk factors reduction in everyday life.
	4. To terminate the program.	1. Participant and family member ask the questions that they want to know about CHD, and CHD patients' self-managemnt. 2. Interevener thank you participant and family member for cooperating the program. 3. Intervener suggestparticipant for using the health care resource.		Intervener, participant, and family member have good impression.

Appendix I

Coronary Heart Disease Booklet

(คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

คู่มือผู้ป่วยโรคหลอดเลือดหัวใจ

คู่มือผู้ป่วยโรคหลอดเลือดหัวใจนี้จัดทำขึ้นเพื่อใช้เป็นเอกสารมอบให้ผู้ป่วยได้ศึกษา เรียนรู้ ทำความเข้าใจ นำไปประยุกต์ใช้ในการจัดการตนเอง เพื่อปรับตัวอยู่ร่วมกับโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันและใช้เป็นสื่อในการให้คำแนะนำกับผู้ป่วยสำหรับพยาบาลในโปรแกรมการพยาบาลแบบรวบยอดสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ

ผลลัพธ์ที่คาดหวังหลังจากการใช้คู่มือผู้ป่วยโรคหลอดเลือดหัวใจคือเพื่อให้ผู้ป่วยมีความรู้ความเข้าใจ ตระหนักถึงความสำคัญของโรคหลอดเลือดหัวใจและปัจจัยเสี่ยง รวมไปถึงเพื่อให้ผู้ป่วยสามารถจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ โดยเฉพาะการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของการทำให้โรคมีความรุนแรงมากขึ้น พัฒนาภาวะสุขภาพและคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดหัวใจได้

หมายเหตุ คู่มือผู้ป่วยโรคหลอดเลือดหัวใจมีขนาด A5 จำนววน 53 หน้า รูปภาพสีขนาด 12 x 12 ซม ขนาด font 18

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix J

DVD about risky health behaviors management of Coronary Heart Disease Patients

(วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ)

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ

วิดีทัศน์การจัดการพฤติกรรมสุขภาพสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ ความยาวประมาณ 30 นาที เป็นสื่อการเรียนรู้ในโครงการโปรแกรมการพยาบาลแบบรวบยอดเพื่อพัฒนาคุณภาพชีวิตผู้ป่วยโรคหลอดเลือดหัวใจ ใช้โดยพยาบาลเพื่อประกอบการเตรียมให้ผู้ป่วยมีความรู้ความเข้าใจ และสามารถปฏิบัติในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจในการดำเนินชีวิตประจำวันได้อย่างเหมาะสม ประกอบด้วย การจัดการตนเอง 4 ด้าน ได้แก่ การจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการกับความเครียด

หมายเหตุ ในช่องภาพ/subtitle ข้อความที่อยู่ในวงเล็บ คือตัวอักษรที่แสดง subtitle

เสียง/เนื้อหา	**ภาพ/ subtitle**
“การจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจและความรุนแรงของโรคนั้น ประกอบไปด้วยการจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการกับความเครียด การจัดการทั้ง 4 เรื่องนี้ถือได้ว่าเป็นสิ่งสำคัญในการปรับตัวเพื่อดำรงชีวิตอยู่ร่วมกับโรคหลอดเลือดหัวใจได้อย่างมีความสุข”	- พยาบาลออกมา “สวัสดีค่ะ” และพูดว่า “……” - รูปหัวใจอยู่ตรงกลางและลูกศรชี้ออกไป 4 ทิศทางถึงรูปคนรับประทานอาหาร รูปคนวิ่งออกกำลังกายในสิ่งแวดล้อมที่สวยงาม รูปคนวางบุหรี่ไว้ไกลตัวและมีเครื่องหมายกากบาททับบุหรี่อยู่ และรูปคนแก่ยิ้มแย้มแจ่มใสเล่นกับลูกหลานอยู่ (การจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการความเครียด)
โรคหลอดเลือดหัวใจตีบตันนั้น เกิดขึ้นมาจากการรับประทานอาหารที่มีไขมัน คอเลสเตอรอล กรดไขมันอิ่มตัวสูง การมีความดันโลหิตสูง และนอกจากนี้แล้วยังมีปัจจัยอื่นที่เป็นตัวกระตุ้นที่ทำให้หลอดเลือดหัวใจอุดตัน	- รูปเส้นเลือดที่มีไขมันมาอุดตัน เส้นเลือดที่ตีบแคบลง โยงไปที่รูปคนนั่งรับประทานอาหารมีรูปอาหารที่มีคอเลสเตอรอลเต็มโต๊ะ คนนั่งทำงานหน้า

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

เสียง/เนื้อหา	ภาพ/ subtitle
ได้แก่ การหดรัดตัวของหลอดเลือดหัวใจ การมีลิ่มเลือดหรือก้อนไขมันอุดตัน ซึ่งสาเหตุทั้งหมดนี้ เกิดขึ้นมาจากการดำเนินชีวิตของท่านเอง ไม่ว่าจะเป็นประเภทของอาหารที่ท่านรับประทานเข้าไป วิธีการตอบสนองต่อความเครียดของท่าน ท่านมีการออกกำลังกายมากน้อยเพียงใด หรือแม้แต่ท่านมีการสูบบุหรี่ หรือดื่มอัลกอฮอล์ด้วยหรือไม่ เพราะสิ่งเหล่านี้เป็นสาเหตุของการเกิดโรคหลอดเลือดหัวใจ	บิ๊งมีกองเอกสารเต็มโต๊ะ รูปคนนั่งเอกเขนกดูโทรทัศน์รอบ ๆ ตัวมีของขบเคี้ยวอยู่โดยรอบ และรูปคนนั่งดื่มเหล้าสูบบุหรี่อยู่
การที่ท่านได้รับทราบข้อมูลเกี่ยวกับการจัดการพฤติกรรมสุขภาพแล้ว แต่ถ้าท่านไม่มีการปฏิบัติตัวตามคำแนะนำที่ได้รับ ก็จะไม่เกิดผลดีกับตัวท่านเลย ดังนั้นนอกจากเรียนรู้แล้ว ท่านควรต้องมีการปฏิบัติด้วย เมื่อท่านปฏิบัติตามคำแนะนำที่ได้รับนี้แล้ว จะเกิดผลดีกับท่านมากมาย ทางด้านร่างกายจะทำให้หลอดเลือดหัวใจของท่านแข็งแรงมากขึ้น ไม่ตีบตัน มีการยืดหยุ่นที่ดี อาการเจ็บหน้าอกลดจึงน้อยลงหรือแทบจะไม่มีเลย ทางด้านจิตใจและสังคม ท่านจะรู้สึกว่าความเครียดและความวิตกกังวลของท่านลดลง รักคนในครอบครัวและเพื่อนมนุษย์มากขึ้น ทางด้านจิตวิญญาณท่านจะรู้สึกสงบร่มเย็น รู้สึกมีพลังสามารถดำรงชีวิตอยู่ร่วมกับโรคนี้อย่างมีความสุข โดยที่ท่านสามารถจัดการกับภาวะสุขภาพและการเจ็บป่วยด้วยตัวของท่านเอง	- รูปผู้ป่วยและครอบครัวยิ้มแย้มแจ่มใสให้กันอยู่ที่บ้านในสภาพสิ่งแวดล้อมที่เป็นธรรมชาติและสวยงาม อยู่ในกรอบรูปหัวใจ
<u>การจัดการด้านอาหาร</u> เมื่อมีคนถามท่านว่า “ท่านมีวิธีในการเลือกอาหารให้เหมาะสมกับโรคหลอดเลือดหัวใจได้อย่างไร” บางท่านอาจจะตอบได้ แต่บางท่านอาจจะตอบไม่ได้ ไม่เป็นไรนะคะไม่ต้องกังวล เพราะหลังจากที่เราพูดคุยกันเรียบร้อยแล้ว ท่านจะไม่เพียงแต่ตอบได้เท่านั้น แต่ท่านยังสามารถทำได้อย่างเป็นอย่างดีอีกด้วยค่ะ	- รูปพยาบาลพูด “…..”

เสียง/เนื้อหา	ภาพ/ subtitle
……	…….
โดยสรุปแล้วท่านควรมีหลักในการรับประทานอาหารดังนี้คือ รับประทานอาหารที่มีไขมันและโคเลสเตอรอลต่ำหรือไม่มีเลย โดยเฉพาะไขมันอิ่มตัวก็จะดีมาก หลีกเลี่ยงอาหารที่มีไขมันอิ่มตัวสูง รับประทานอาหารที่มีกากใยสูง อาหารที่มีปริมาณเกลือและน้ำตาลต่ำ ท่านสามารถรับประทานอาหารเหล่านี้ได้ด้โดยไม่จำกัดปริมาณ สามารถรับประทานอาหารได้มากเท่าที่คุณพอใจ รับประทานเมื่อใดก็ได้ที่คุณหิว ถึงแม้ว่าท่านจะรับประทานบ่อยแต่ท่านก็สามารถลดน้ำหนักลงได้เ พราะอาหารเหล่านี้เป็นอาหารที่มีไขมันต่ำ ให้พลังงานน้อย	- รูปพยาบาลพูด “……..” (รับประทานอาหารที่มีไขมันและโคเลสเตอรอลต่ำ/ไม่มีไขมันอิ่มตัว/ รับประทานอาหารที่มีกากใยสูง/ปริมาณเกลือและน้ำตาลต่ำ
ท่านสามารถรับประทานนมพร่องมันเนย หรือนมไขมันต่ำ หรือโยเกิร์ตได้ รับประทานไข่ได้โดยเฉพาะไข่ขาว รับประทานได้ไม่จำกัดจำนวน แต่ไข่แดงรับประทานได้ในปริมาณไม่มาก1-2 ฟองต่อสัปดาห์เนื่องจากในไข่แดงมีโคเลสเตอรอลสูง สามารถดื่มอัลกอฮอล์ได้ไม่เกิน 1 แป๊ก หรือ 60 ซีซี ต่อวันหรือ 4 ช้อนโต๊ะ ไม่ควรรับประทานไขมันจากสัตว์และผลิตภัณฑ์จากสัตว์ที่มีไขมันสูง เช่น หนังสัตว์ ไขมันสัตว์ เครื่องในสัตว์ ไม่ควรดื่มกาแฟ หรือเครื่องดื่มที่มีส่วนผสมของคาเฟอีน	- รูปนมไขมันต่ำ หรือโยเกิร์ต ไข่ขาว
เพียงเท่านี้ท่านก็จะประสบความสำเร็จในการจัดการด้านอาหารเพื่อการมีสุขภาพที่ดีและคุณภาพชีวิตที่ดีได้ด้วยตัวของท่านเองค่ะ	- รูปผู้ป่วยยิ้มแย้มแจ่มใส รับประทานอาหารอยู่

การจัดการด้านการมีกิจกรรมและการออกกำลังกาย

เสียง/เนื้อหา	ภาพ/subtitle
คนทั่วไปทราบดีว่าการออกกำลังกายนั้นเป็นสิ่งที่ดีแต่ก็มักจะไม่ได้ออกกำลังกาย การออกกำลังกายเพียงอย่างเดียวไม่สามารถทำให้ท่านมีสุขภาพดีได้ แต่ถือได้ว่าเป็น	- รูปคนเดิน วิ่ง ขี่จักรยาน รำไทเก๊ก อยู่ในสวนสาธารณะ - รูปผู้สูงอายุหลายคนแต่งกายชุดออก

เสียง/เนื้อหา	ภาพ/subtitle
องค์ประกอบที่สำคัญอย่างหนึ่งของการมีสุขภาพดี การออกกำลังกายแบบปานกลาง ไม่หักโหม จึงเป็นส่วนหนึ่งของโปรแกรมการพยาบาลแบบรวบยอดที่ขอแนะนำให้กับท่าน เพื่อช่วยทำให้ร่างกายแข็งแรง มีสุขภาพดีและสามารถปรับตัวต่อการเป็นโรคหลอดเลือดหัวใจได้เป็นอย่างดี	กำลังกายหน้าตายิ้มแย้มแจ่มใส
…….	……..
สำหรับอาการเตือนอื่น ๆ ถ้าท่านมีอาการเหล่านี้เกิดขึ้นในขณะหรือหลังจากการออกกำลังกาย ดังต่อไปนี้ท่านควรไปพบแพทย์ทันที 1. วิงเวียน 2. อาการเหนื่อยอ่อนเพลียมากผิดปกติ 3. มีเหงื่อออกมากผิดปกติ 4. หัวใจเต้นเร็วหรือเต้นไม่สม่ำเสมอ 5. หายใจสั้น ถี่ หอบเหนื่อย มากกว่าปกติ 6. มีอาการเจ็บหน้าอกเกิดขึ้นบ่อย ๆ อาจจะร้าวหรือไม่ร้าวไปที่คาง ไหล่ หลัง และอาการไม่ดีขึ้นหลังจากที่พักอมยาใต้ลิ้น 2 เม็ดแล้วอาการไม่ดีขึ้น	- รูปคนวิ่งอยู่แล้วมีท่าทางเหนื่อยมาก หายใจเร็ว หอบ เหงื่อออกมาก ยืนทรงตัวไม่ไหว ต้องใช้มือยันที่ขาทั้งสองข้างต่อมาใช้มือจับหน้าอก และทรุดตัวลงนั่ง
เพียงเท่านี้ท่านก็จะปลอดภัยจากการออกกำลังกายแล้วค่ะ	- รูปคนเดินออกกำลังกายยิ้มแย้มแจ่มใส

การจัดการด้านการสูบบุหรี่

เสียง/เนื้อหา	ภาพ/subtitle
การสูบบุหรี่นั้นถือได้ว่าเป็นการเสพติดทั้งด้านร่างกายและจิตใจ ท่านสามารถติดบุหรี่ได้หลังจากที่สูบบุหรี่เข้าไปเพียงไม่กี่มวน มันเป็นการยากในการที่จะเลิกสูบบุหรี่ แต่ก็ไม่ยากเกินความสามารถของเรา ถ้ามีความตั้งใจจริง คนที่พยายามเลิกสูบบุหรี่จะมีกลุ่มอาการถดถอย หรือที่เรียกว่า withdrawal ซึ่งประกอบด้วยอาการเหล่านี้คือ	- รูปคนสุบบุหรี่ หลาย ๆ ภาพ หลาย ๆ คน - รูปคนแสดงอาการกระสับกระส่าย โมโห หงุดหงิด ฉุนเฉียว อารมณ์เสีย

เสียง/เนื้อหา	ภาพ/subtitle
กระสับกระส่าย โมโหง่าย โกรธง่าย อารมณ์เสียบ่อย วิตกกังวล ง่วงเหงาหาวนอน ปวดศีรษะ ท้องไส้ปั่นป่วน นอนไม่หลับ ตื่นบ่อย ความอดทนน้อยลง สับสน สมาธิและความสนใจสั้นลง กลุ่มอาการถดถอยที่แสดงออกทางกายนั้นจะแสดงออกและมีความรุนแรงมากในช่วง 24-48 ชั่วโมง หลังจากสูบบุหรี่มวนสุดท้าย และอาการจะค่อย ๆ ลดลงภายในระยะเวลา 2 สัปดาห์ ส่วนการติดด้านจิตใจจะใช้เวลานานมากกว่า ความอยากสูบบุหรี่จะยังคงอยู่นานเป็นเดือนหรือเป็นปี โดยเฉพาะเมื่ออยู่ในอารมณ์เครียด หรือสถานการณ์ที่ตึงเครียด	- รูปคนมีสีหน้า วิตกกังวล ง่วงเหงาหาวนอน ปวดศีรษะ ท้องไส้ปั่นป่วน นอนไม่หลับ ตื่นบ่อย ความอดทนน้อยลง สับสน สมาธิและความสนใจสั้นลง
.....	.....
ขอให้ท่านมีความตั้งใจจริง ร่วมกับการปฏิบัติตามคำแนะนำที่ได้รับนี้ ท่านก็จะประสบความสำเร็จในการเลิกสูบบุหรี่ได้อย่างแน่นอนค่ะ	- รูปผู้ชายยิ้มแย้มแจ่มใสหัวเราะอยู่กับครอบครัว

การจัดการกับความเครียด

เสียง/เนื้อหา	ภาพ/subtitle
เมื่อเกิดภาวะเครียดไม่ว่าจะเป็นทางด้านร่างกายหรือจิตใจจะมีการกระตุ้นให้หัวใจเต้นเร็วและแรงขึ้น ซึ่งเป็นสาเหตุทำให้หลอดเลือดหัวใจหดรัดตัว ปริมาณเลือดที่มาเลี้ยงหัวใจลดน้อยลง นอกจากนั้นร่างกายยังมีการตอบสนองโดยกล้ามเนื้อหดรัดตัว กระบวนการเผาผลาญในร่างกายมีมากกว่าปกติ อัตราการหายใจเร็วขึ้น หลอดเลือดทั่วร่างกายมีการหดรัดตัวมากขึ้น เลือดมีการเกาะตัวเป็นลิ่มเร็วและมากกว่าปกติ ทำให้เกิดอาการเจ็บหน้าอกขึ้นมาได้	- รูปคนโมโห โกรธ หน้าแดง มีหัวใจโตออกมานอกร่างกาย มีเสียงหายใจหอบ มือจับหน้าอกอยู่ - รูปคนแสดงหัวใจและหลอดเลือดทั่วร่างกาย มีการไหลเวียนของเลือดทั่วร่างกาย
.....	.....
ท่านสามารถใช้เทคนิคต่าง ๆ เหล่านี้ได้ ในการพัฒนาอารมณ์และจิตวิญญาณที่สามารถช่วยเปลี่ยนชีวิตของท่านให้ดีขึ้น ถึงแม้ว่าปัจจุบันจะมีเทคโนโลยีเพื่อประเมิน	- รูปครอบครัวยิ้มแย้มแจ่มใสอยู่ในสิ่งแวดล้อมที่เป็นธรรมชาติ

เสียง/เนื้อหา	ภาพ/subtitle
พัฒนาการทางด้านร่างกาย แต่การประเมินพัฒนาการทางด้านจิตใจ อารมณ์และจิตวิญญาณนั้นไม่มีเครื่องมือประเมินที่จับต้องได้ ท่านต้องใช้ใจในการประเมินเท่านั้น	
สรุป เป็นอย่างไรบ้างคะ หลังจากที่ท่านได้ฟังแลกเปลี่ยนเรียนรู้การจัดการพฤติกรรมสุขภาพทั้ง 4 ด้าน สำหรับผู้ป่วยโรคหลอดเลือดหัวใจ ไม่ว่าจะเป็นการจัดการด้านอาหาร การจัดการด้านการมีกิจกรรมและการออกกำลังกาย การจัดการด้านการสูบบุหรี่ และการจัดการกับความเครียด หากท่านมีข้อสงสัยอยากซักถามท่านก็สามารถพูดคุยกับพยาบาลผู้ดูแลท่านได้ เชื่อว่าคงจะช่วยทำให้ท่านมีความรู้ ความเข้าใจและสามารถปฏิบัติในการจัดการตนเองให้สามารถดำรงชีวิตในฐานะที่เป็นผู้ป่วยโรคหลอดเลือดหัวใจได้อย่างมีความสุขและมีคุณภาพชีวิตที่ดีต่อไปได้นะคะ	- รูปคนนั่งรับประทานอาหารประเภทผักสดและผลไม้ รูปคนวิ่งออกกำลังกาย รูปคนทิ้งบุหรี่ และรูปคนทำโยคะ หายใจลึก ๆ นั่งสมาธิ - รูปผู้สูงอายุยิ้มแย้มแจ่มใส พูดคุย เล่นอยู่กับลูกหลานและสมาชิก ครอบครัว อยู่ในกรอบรูปหัวใจ

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix K

The Coronary Heart Disease Patient's Management scores

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

No	% of CHD Knowledge	% of CHD SM	% of General management	% of Diet management	% of Exercise management	% of Smoking management	% of Stress management
1	88.89	84.44	80.00	82.50	75.00	100.00	90.63
2	91.11	80.00	82.50	75.00	75.00	96.43	75.00
3	93.33	79.44	75.00	80.00	77.50	92.86	75.00
4	88.89	81.11	75.00	82.50	75.00	96.43	81.25
5	95.56	78.33	77.50	77.50	80.00	78.57	78.13
6	88.89	86.67	80.00	80.00	90.00	100.00	87.50
7	93.33	88.33	90.00	82.50	90.00	89.29	90.63
8	86.67	81.67	75.00	82.50	75.00	100.00	81.25
9	88.89	77.22	75.00	75.00	75.00	89.29	75.00
10	93.33	85.00	87.50	85.00	77.50	96.43	81.25
11	86.67	78.33	75.00	82.50	75.00	85.71	75.00
12	95.56	82.22	90.00	82.50	75.00	85.71	78.13
13	84.44	77.22	75.00	75.00	75.00	85.71	78.13
14	86.67	78.89	75.00	80.00	77.50	89.29	75.00
15	93.33	75.00	75.00	75.00	75.00	75.00	75.00
16	88.89	85.56	85.00	87.50	87.50	89.29	78.13
17	91.11	82.78	80.00	82.50	77.50	100.00	78.13
18	93.33	82.78	82.50	90.00	77.50	89.29	75.00
19	86.67	77.78	77.50	80.00	75.00	82.14	75.00
20	97.78	82.78	87.50	87.50	75.00	89.29	75.00
21	88.89	78.89	75.00	80.00	77.50	85.71	78.13
22	86.67	81.67	82.50	82.50	77.50	89.29	78.13
23	91.11	80.00	80.00	80.00	77.50	89.29	75.00
24	100.00	83.33	77.50	87.50	77.50	100.00	78.13
25	88.89	81.11	77.50	85.00	82.50	75.00	84.38
26	88.89	85.00	85.00	75.00	80.00	89.29	100.00
27	91.11	86.67	87.50	82.50	82.50	100.00	84.38
28	88.89	80.56	87.50	82.50	75.00	82.14	75.00
29	93.33	80.00	82.50	75.00	80.00	78.57	84.38
30	91.11	86.11	92.50	82.50	87.50	89.29	78.13
31	91.11	83.89	85.00	80.00	82.50	92.86	81.25
32	93.33	83.89	92.50	77.50	77.50	89.29	84.38
33	95.56	82.22	82.50	85.00	77.50	82.14	84.38
34	88.89	80.56	77.50	85.00	75.00	78.57	87.50
35	88.89	81.11	80.00	82.50	75.00	92.86	78.13
36	88.89	81.11	80.00	82.50	75.00	92.86	78.13
37	97.78	78.89	80.00	80.00	75.00	85.71	75.00
X	90.99	81.64	81.22	81.35	78.24	89.29	80.07
stdv	3.59	81.64	5.39	3.89	4.36	7.19	5.72

Appendix L

The Quality of life scores and statistical test

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
PRETEST	1.00	37	18.2366	2.75322	.45263
OVERALL	2.00	37	18.2165	2.04795	.33668
POSTTEST	1.00	37	23.2067	1.88631	.31011
OVERALL	2.00	37	18.3714	1.68214	.27654
PRETEST	1.00	37	16.4568	2.96775	.48789
HEALTH	2.00	37	16.2968	2.42454	.39859
POSTTEST	1.00	37	22.3678	1.73791	.28571
HEALTH	2.00	37	16.3897	2.02704	.33324
PRETEST	1.00	37	22.4003	2.97639	.48932
SOCIOECO	2.00	37	22.5719	2.37339	.39018
POSTTEST	1.00	37	26.8276	1.96599	.32321
SOCIOECO	2.00	37	23.0149	1.78588	.29360
PRETEST	1.00	37	17.0522	3.98040	.65437
PSY/SPIRIT	2.00	37	17.3459	2.55036	.41928
POSTTEST	1.00	37	21.1794	3.48033	.57216
PSY/SPIRIT	2.00	37	17.5292	2.80051	.46040
PRETEST	1.00	37	18.5703	3.33232	.54783
FAMILY	2.00	37	18.2189	1.82374	.29982
POSTTEST	1.00	37	22.2941	2.27627	.37422
FAMILY	2.00	37	18.0665	1.56188	.25677
% CHANGE	1.00	37	28.7016	12.17720	2.00192
OVERALL	2.00	37	1.0897	3.40552	.55986
% CHANGE	1.00	37	38.5942	17.56140	2.88708
HEALTH	2.00	37	.9565	4.69942	.77258
% CHANGE	1.00	37	21.0581	12.47590	2.05102
SOCIOECO	2.00	37	2.3927	6.41740	1.05501
% CHANGE	1.00	37	27.4787	18.03480	2.96490
PSY/SPIRIT	2.00	37	.9546	3.69903	.60812
% CHANGE	1.00	37	21.5298	16.32936	2.68453
FAMILY	2.00	37	-.5951	5.07236	.83389

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
% CHANGE FAMILY	1.00	37	21.5298	16.32936	2.68453
	2.00	37	-.5951	5.07236	.83389

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PREOVERA	Equal variances assumed	2.138	.148	.036	72	.972	.0202	.56412	-1.10439	1.14470
	Equal variances not assumed			.036	66.500	.972	.0202	.56412	-1.10598	1.14629
POSTOVAL	Equal variances assumed	.450	.505	11.637	72	.000	4.8353	.41550	4.00704	5.66362
	Equal variances not assumed			11.637	71.075	.000	4.8353	.41550	4.00685	5.66380
PREHEALT	Equal variances assumed	.427	.516	.254	72	.800	.1600	.63001	-1.09591	1.41591
	Equal variances not assumed			.254	69.245	.800	.1600	.63001	-1.09676	1.41676
POSTHEAL	Equal variances assumed	.877	.352	13.619	72	.000	5.9781	.43896	5.10307	6.85315
	Equal variances not assumed			13.619	70.360	.000	5.9781	.43896	5.10272	6.85350

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PRESOCIO	Equal variances assumed	2.988	.088	-.274	72	.785	-.1716	.62584	-1.41914	1.07603
	Equal variances not assumed			-.274	68.601	.785	-.1716	.62584	-1.42019	1.07709
POSTSOCI	Equal variances assumed	.148	.701	8.732	72	.000	3.8127	.43665	2.94226	4.68314
	Equal variances not assumed			8.732	71.345	.000	3.8127	.43665	2.94212	4.68328
PREPSYCH	Equal variances assumed	4.864	.031	-.378	72	.707	-.2937	.77717	-1.84301	1.25552
	Equal variances not assumed			-.378	61.295	.707	-.2937	.77717	-1.84765	1.26016
POSTPSY	Equal variances assumed	1.782	.186	4.970	72	.000	3.6502	.73440	2.18620	5.11419
	Equal variances not assumed			4.970	68.848	.000	3.6502	.73440	2.18505	5.11533
PREFAM	Equal variances assumed	11.732	.001	.563	72	.575	.3514	.62451	-.89358	1.59629

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
	Equal variances not assumed			.563	55.790	.576	.3514	.62451	-.89979	1.60250
POSTFAM	Equal variances assumed	4.397	.040	9.315	72	.000	4.2276	.45384	3.32286	5.13228
	Equal variances not assumed			9.315	63.748	.000	4.2276	.45384	3.32085	5.13428
CHGOVERA	Equal variances assumed	30.447	.000	13.283	72	.000	27.6119	2.07873	23.46800	31.75575
	Equal variances not assumed			13.283	41.597	.000	27.6119	2.07873	23.41562	31.80813
CHGHEALT	Equal variances assumed	23.149	.000	12.594	72	.000	37.6377	2.98866	31.67993	43.59550
	Equal variances not assumed			12.594	41.130	.000	37.6377	2.98866	31.60257	43.67286
CHGSOCIO	Equal variances assumed	7.064	.010	8.093	72	.000	18.6654	2.30646	14.06752	23.26320
	Equal variances not assumed			8.093	53.804	.000	18.6654	2.30646	14.04080	23.28992

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CHGPSY	Equal variances assumed	54.222	.000	8.764	72	.000	26.5241	3.02662	20.49061	32.55754
	Equal variances not assumed			8.764	39.024	.000	26.5241	3.02662	20.40226	32.64588
CHGFAM	Equal variances assumed	17.790	.000	7.871	72	.000	22.1250	2.81106	16.52123	27.72874
	Equal variances not assumed			7.871	42.883	.000	22.1250	2.81106	16.45549	27.79448

ศูนย์วิทยทรัพยากร
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Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	POOVEX	18.2366	37	2.75322	.45263
	PEOVEX	23.2067	37	1.88631	.31011
Pair 2	POHELEX	16.4568	37	2.96775	.48789
	PEHELEX	22.3678	37	1.73791	.28571
Pair 3	POSOCEX	22.4003	37	2.97639	.48932
	PESOCEX	26.8276	37	1.96599	.32321
Pair 4	POPSYEX	17.0522	37	3.98040	.65437
	PEPSYEX	21.1794	37	3.48033	.57216
Pair 5	POFAMEX	18.5703	37	3.33232	.54783
	PEFAMEX	22.2941	37	2.27627	.37422
Pair 6	POOVECON	18.2165	37	2.04795	.33668
	PEOVCON	18.3714	37	1.68214	.27654
Pair 7	POHELCON	16.2968	37	2.42454	.39859
	PEHELCON	16.3897	37	2.02704	.33324
Pair 8	POSOCCON	22.5719	37	2.37339	.39018
	PESOCCON	23.0149	37	1.78588	.29360

		Mean	N	Std. Deviation	Std. Error Mean
Pair 9	POPSYCON	17.3459	37	2.55036	.41928
	PEPSYCON	17.5292	37	2.80051	.46040
Pair 10	POFAMCON	18.2189	37	1.82374	.29982
	PEFAMCON	18.0665	37	1.56188	.25677

ศูนย์วิทยทรัพยากร
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Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	POOVEX - PEOVEX	-4.9700	1.71936	.28266	-5.5433	-4.3968	-17.583	36	.000
Pair 2	POHELEX - PEHELEX	-5.9111	2.02394	.33273	-6.5859	-5.2363	-17.765	36	.000
Pair 3	POSOCEX - PESOCEX	-4.4272	2.20637	.36273	-5.1629	-3.6916	-12.205	36	.000
Pair 4	POPSYEX - PEPSYEX	-4.1272	2.32678	.38252	-4.9030	-3.3514	-10.789	36	.000
Pair 5	POFAMEX - PEFAMEX	-3.7238	2.36764	.38924	-4.5132	-2.9344	-9.567	36	.000
Pair 6	POOVECON - PEOVCON	-.1549	.63397	.10422	-.3662	.0565	-1.486	36	.146
Pair 7	POHELCON - PEHELCON	-.0930	.79683	.13100	-.3587	.1727	-.710	36	.482
Pair 8	POSOCCON - PESOCCON	-.4430	1.49464	.24572	-.9413	.0554	-1.803	36	.080
Pair 9	POPSYCON - PEPSYCON	-.1832	.65236	.10725	-.4008	.0343	-1.709	36	.096
Pair 10	POFAMCON - PEFAMCON	.1524	.95307	.15668	-.1653	.4702	.973	36	.337

The HRQOL scores of the experimental group

No	Pre overall	Post overall	Pre health	Post health	Pre socio	Post socio	Pre psycho	Post psycho	Pre family	Post family
1	25.49	26.93	24.60	25.67	28.00	29.25	25.00	27.14	24.80	26.70
2	15.70	21.66	16.10	21.63	19.63	26.00	12.50	17.71	12.70	20.30
3	16.50	22.04	15.20	22.50	23.06	26.44	12.43	17.21	15.60	20.40
4	17.80	21.50	16.33	21.63	21.94	25.75	14.79	16.21	19.80	21.70
5	16.21	23.00	14.50	22.30	21.94	27.63	13.07	19.71	16.60	22.30
6	19.00	22.34	16.13	21.03	23.25	26.63	20.21	21.29	19.10	20.90
7	17.90	23.29	12.90	21.23	26.06	28.25	17.14	22.79	20.90	22.20
8	18.30	22.87	13.67	20.63	23.94	27.81	19.21	22.00	21.90	22.90
9	16.11	21.11	15.97	20.93	20.56	24.94	10.29	17.36	17.60	20.80
10	22.20	25.23	21.20	24.67	25.13	27.75	21.00	24.21	22.20	24.30
11	15.67	23.81	13.40	22.97	20.75	27.44	16.14	21.14	13.70	24.30
12	25.66	28.54	23.93	27.23	25.56	31.06	28.29	29.14	27.30	27.60
13	15.04	21.19	14.20	18.11	19.63	22.12	11.50	15.78	15.20	18.98
14	15.41	21.21	13.33	20.53	21.44	26.00	14.57	19.00	13.20	18.70
15	20.21	24.86	20.33	23.60	24.88	29.19	15.36	22.36	19.20	25.20
16	15.60	22.17	15.33	22.57	18.00	25.31	11.29	18.00	18.60	21.80
17	17.57	26.37	12.13	23.50	21.88	29.94	22.50	30.00	20.10	24.20
18	21.21	23.90	18.27	23.43	25.75	26.50	22.36	22.79	21.20	22.70
19	17.90	22.61	15.33	22.13	22.50	26.13	17.43	19.43	18.90	22.90
20	22.09	25.64	19.87	23.63	27.19	27.56	19.93	28.21	23.60	25.00
21	17.14	20.89	15.07	20.00	21.81	25.75	17.00	18.86	16.10	18.60
22	20.59	23.47	15.57	21.07	28.38	29.31	22.07	23.14	21.10	21.80
23	16.64	21.00	16.00	21.33	17.94	23.19	16.43	18.36	16.80	20.20
24	18.37	21.00	17.03	21.33	19.88	23.19	18.14	18.36	20.30	20.20
25	17.49	23.66	16.27	23.07	20.88	26.75	17.29	23.00	16.00	21.40

No	Pre overall	Post overall	Pre health	Post health	Pre socio	Post socio	Pre psycho	Post psycho	Pre family	Post family
26	16.56	22.73	15.77	22.30	20.31	27.63	15.36	19.57	14.60	20.60
27	17.34	22.26	14.37	21.40	20.69	25.19	18.00	20.14	20.00	23.10
28	17.31	22.90	16.17	21.90	19.94	26.69	16.14	20.79	18.20	22.80
29	17.66	21.90	15.93	21.50	22.00	26.63	16.36	17.93	17.70	21.10
30	15.76	20.73	14.60	20.50	19.88	24.38	13.07	18.43	16.40	18.80
31	17.56	22.90	16.87	22.37	20.75	26.00	14.86	21.21	18.30	21.90
32	17.16	23.13	15.20	23.03	20.69	25.88	17.07	21.71	17.50	21.00
33	24.09	26.41	23.77	26.00	27.06	28.75	22.50	25.93	22.50	24.60
34	15.23	23.96	15.27	23.80	16.94	28.00	13.07	21.00	15.40	22.10
35	19.90	25.44	17.07	23.43	27.56	30.38	15.57	22.79	22.20	27.30
36	17.09	23.33	15.23	22.40	22.06	27.25	17.14	20.79	14.60	23.40
37	17.29	22.66	16.00	22.23	21.00	26.00	15.86	20.14	17.20	22.10

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

The HRQOL scores of the control group

No	Pre overall	Post overall	Pre health	Post health	Pre socio	Post socio	Pre psycho	Post psycho	Pre family	Post family
1	21.89	21.51	20.77	19.56	28.88	28.05	19.29	20.27	17.70	18.60
2	20.31	20.01	18.33	17.02	24.94	24.66	20.64	21.62	18.40	19.30
3	18.79	19.34	17.00	17.00	24.75	26.55	14.86	15.84	20.10	19.72
4	23.59	22.86	23.90	22.23	23.69	23.44	25.50	26.48	19.80	18.78
5	24.40	23.31	22.83	21.78	28.88	25.78	24.00	24.98	22.50	21.61
6	20.64	19.65	18.30	17.02	25.31	23.31	19.86	20.84	21.30	20.04
7	16.79	17.85	12.63	13.65	22.69	24.57	20.36	21.34	14.80	14.80
8	17.43	17.98	15.23	16.20	20.00	21.34	16.86	16.86	20.70	19.54
9	18.40	19.18	17.67	18.89	21.56	23.50	15.43	15.43	19.70	18.36
10	19.47	19.95	17.50	18.56	24.06	24.89	19.43	18.86	18.10	17.71
11	21.41	20.81	19.50	19.50	26.06	25.00	21.43	20.86	19.70	17.97
12	15.14	15.84	14.67	15.63	17.56	19.31	14.07	13.50	14.20	14.20
13	17.09	17.17	15.87	15.45	21.25	21.69	14.71	14.14	17.40	19.35
14	17.67	17.92	15.43	15.56	20.56	22.31	18.79	18.22	18.20	17.57
15	16.54	16.19	14.10	14.10	21.88	21.06	14.36	14.36	18.40	17.23
16	17.64	17.61	15.17	15.17	22.63	22.88	17.14	16.67	17.80	17.80
17	20.79	19.65	19.23	18.78	25.88	23.19	18.50	18.03	20.50	18.89
18	16.93	17.24	15.00	15.00	20.69	21.75	16.36	15.89	17.50	18.62
19	17.53	18.82	15.90	16.90	21.31	23.75	16.50	17.23	17.80	18.92
20	17.14	17.95	14.77	15.53	22.25	22.06	16.29	18.12	17.30	18.42
21	17.09	17.05	15.27	15.27	20.81	21.13	17.21	16.65	16.40	16.40
22	18.24	18.79	16.63	17.71	22.50	23.00	17.21	16.65	17.70	18.32
23	16.87	17.38	14.83	16.02	20.75	21.25	17.71	17.15	15.60	15.60
24	16.69	17.81	14.67	15.98	20.00	21.81	16.64	16.64	17.50	18.56
25	16.17	16.77	13.93	15.23	20.63	20.81	15.79	15.79	16.30	16.30

No	Pre overall	Post overall	Pre health	Post health	Pre socio	Post socio	Pre psycho	Post psycho	Pre family	Post family
26	17.59	17.52	16.17	15.87	21.50	21.75	16.43	16.43	17.20	17.20
27	17.79	17.20	15.73	14.89	22.13	22.00	16.79	16.79	18.40	17.03
28	18.49	18.31	17.03	16.67	21.94	22.06	15.64	15.64	21.30	20.98
29	16.97	17.24	13.80	13.89	22.25	22.44	16.36	17.43	18.90	18.67
30	17.43	17.28	15.23	15.23	21.50	22.25	15.86	15.86	19.70	17.45
31	16.89	17.89	14.97	15.21	21.63	24.63	16.50	17.56	15.60	15.60
32	17.09	16.94	14.83	14.83	22.00	21.81	15.29	15.29	18.50	17.79
33	16.69	17.31	14.80	14.80	21.25	24.00	15.07	15.07	17.30	17.30
34	17.17	17.46	16.10	16.10	21.31	22.19	14.57	14.57	17.40	18.01
35	17.56	18.41	15.13	15.13	22.50	25.64	17.21	17.56	17.40	17.89
36	16.93	17.18	14.23	14.23	21.94	22.38	16.64	17.01	17.40	17.95
37	18.76	18.36	15.83	15.83	25.69	23.31	16.50	16.95	19.60	19.98

ศูนย์วิทยทรัพยากร
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Appendix M

Risky health behavior management priority

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Statistics

		Diet management	Stress management	Exercise management	Smoking management	Management priority
N	Valid	37	37	37	37	37
	Missing	0	0	0	0	0

Diet management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	35.1	35.1	35.1
	2	12	32.4	32.4	67.6
	3	10	27.0	27.0	94.6
	4	2	5.4	5.4	100.0
	Total	37	100.0	100.0	

Stress management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	2.7	2.7	2.7
	2	11	29.7	29.7	32.4
	3	17	45.9	45.9	78.4
	4	8	21.6	21.6	100.0
	Total	37	100.0	100.0	

Exercise management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	43.2	43.2	43.2
	2	12	32.4	32.4	75.7
	3	8	21.6	21.6	97.3
	4	1	2.7	2.7	100.0
	Total	37	100.0	100.0	

Smoking management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	18.9	18.9	18.9
	2	2	5.4	5.4	24.3
	3	2	5.4	5.4	29.7
	4	26	70.3	70.3	100.0
	Total	37	100.0	100.0	

Management priority

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1234	4	10.8	10.8	10.8
	1243	1	2.7	2.7	13.5
	1324	7	18.9	18.9	32.4
	1432	1	2.7	2.7	35.1
	2314	9	24.3	24.3	59.5
	2431	3	8.1	8.1	67.6
	3124	1	2.7	2.7	70.3
	3214	5	13.5	13.5	83.8
	3412	1	2.7	2.7	86.5
	3421	2	5.4	5.4	91.9
	4213	1	2.7	2.7	94.6
	4321	2	5.4	5.4	100.0
	Total	37	100.0	100.0	

1= Diet management
2= Stress management
3= Exercise management
4= Smoking management

Appendix N

The personal data that related to Cardiac risk factors analysis

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Table 10 The comparison of personal data that related to the cardiac risk factors between experimental and control groups at pretest and posttest

Personal data (units)	Experimental Group N=37		Control Group N=37		t	df	*p*-value
	Mean	SD	Mean	SD			
Pretest							
Age (years)	61.24	14.50	62.54	13.33	-.40	72	.69
Weight (kg)	59.96	11.80	61.97	9.99	-.79	72	.43
BMI (kg/m2)	22.81	4.19	23.96	3.25	-1.39	72	.17
Systolic (mmHg)	140.50	21.14	142.22	22.03	-.43	72	.67
Diastolic (mmHg)	80.73	11.96	83.97	15.03	-1.03	68.55	.31
Cholesterol (mg/dl)	252.11	48.82	239.70	42.39	1.17	72	.25
Triglyceride(mg/dl)	222.54	85.18	203.08	65.06	1.10	72	.27
HDL (mg/dl)	40.46	9.73	37.49	8.19	.14	72	.16
LDL (mg/dl)	177.89	43.30	176.49	48.45	.13	72	.90
FBS (mg%)	137.35	63.88	123.14	40.39	1.14	60.82	.26
Posttest							
Weight (kg)	59.04	11.34	62.18	9.97	-1.27	72	.207
BMI (kg/m2)	22.41	3.89	24.05	3.24	-1.97	72	.053
Systolic (mmHg)	122.73	13.15	139.35	17.47	-4.62	72	.000
Diastolic (mmHg)	74.54	9.50	81.59	10.30	-3.06	72	.003
Cholesterol (mg/dl)	191.30	32.62	236.08	38.92	-5.36	72	.000
Triglyceride(mg/dl)	161.49	62.48	204.05	59.15	-3.01	72	.004
HDL (mg/dl)	45.51	7.98	38.08	6.64	-4.36	72	.000
LDL (mg/dl)	116.36	30.40	174.51	41.81	-6.84	65.74	.000
FBS (mg%)	101.86	34.30	122.51	38.39	-2.44	72	.017

ศูนย์วิทยทรัพยากร
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Table 11 The comparison of personal data that related to the cardiac risk factors between pretest and posttest of experimental and control groups

Personal data (units/normal level)	Pretest		Posttest		t	df	*p*-value
	Mean	SD	Mean	SD			
Experimental group							
Weight (kg)	59.96	11.80	59.04	11.34	-7.361	36	.000
BMI (kg/m2)	22.81	4.19	22.41	3.89	-7.166	36	.000
Systolic (mmHg)	140.50	21.14	122.73	13.15	-10.397	36	.000
Diastolic (mmHg)	80.73	11.96	74.54	9.50	-7.095	36	.000
Cholesterol (mg/dl)	252.11	48.82	191.30	32.62	-18.635	36	.000
Triglyceride(mg/dl)	222.54	85.18	161.49	62.48	-14.003	36	.000
HDL (mg/dl)	40.46	9.73	45.51	7.98	7.823	36	.000
LDL (mg/dl)	177.89	43.30	116.36	30.40	-11.766	36	.000
FBS (mg%)	137.35	63.88	101.86	34.30	-6.389	36	.000
Control group							
Weight (kg)	61.97	9.99	62.18	9.97	1.335	36	.190
BMI (kg/m2)	23.96	3.25	24.05	3.24	1.535	36	.134
Systolic (mmHg)	142.22	22.03	139.35	17.47	-1.458	36	.153
Diastolic (mmHg)	83.97	15.03	81.59	10.30	-1.893	36	.066
Cholesterol (mg/dl)	239.70	42.39	236.08	38.92	-1.582	36	.122
Triglyceride(mg/dl)	203.08	65.06	204.05	59.15	.179	36	.859
HDL (mg/dl)	37.49	8.19	38.08	6.64	.152	36	.138
LDL (mg/dl)	176.49	48.45	174.51	41.81	-.571	36	.571
FBS (mg%)	123.14	40.39	122.51	38.39	-.200	36	.843

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix O

Human Subjects Approval Document

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ที่ สห ๐๐๒๗.๒๐๓/๖

โรงพยาบาลสิงห์บุรี
๙๑๗/๓ ถนนขุนสรรค์
อำเภอเมือง จังหวัดสิงห์บุรี
๑๖๐๐๐

๒๓ กันยายน ๒๕๕๓

เรื่อง อนุเคราะห์ให้นิสิตทดลองใช้เครื่องมือและเก็บรวบรวมข้อมูลการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์

ตามหนังสือ ที่ ศธ ๐๕๑๒.๑๑/๑๓๐๗ ลงวันที่ ๑๘ สิงหาคม ๒๕๕๓ จากคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย เรื่อง ขอความอนุเคราะห์ให้นิสิตทดลองใช้เครื่องมือและเก็บรวบรวมข้อมูลการวิจัย "ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ" โดยมีรองศาสตราจารย์ ร.ต.อ. หญิง ดร.ยุพิน อังสุโรจน์ เป็นอาจารย์ที่ปรึกษาดุษฎีนิพนธ์ และ มี รองศาสตราจารย์ ดร.สุรีพร ธนศิลป์ เป็นอาจารย์ที่ปรึกษาดุษฎีนิพนธ์ร่วม โดยเก็บรวบรวมข้อมูลการวิจัยจำนวน 50 คน จากกลุ่มตัวอย่างผู้ป่วยโรคหลอดเลือดหัวใจที่ได้รับการวินิจฉัยในครั้งแรก โดยใช้โปรแกรมการพยาบาลแบบรวบยอด ในการนี้โรงพยาบาลสิงห์บุรี จึงให้ความอนุเคราะห์ ให้ นางสาวปัฐยาวัชร ปรากฏผล ดำเนินการทดลองใช้เครื่องมือและเก็บรวบรวมข้อมูลการวิจัยดังกล่าว ได้

ขอแสดงความนับถือ

(นางสุวดี เขียวสะอาด)
หัวหน้าพยาบาล

กลุ่มการพยาบาล
โทร ๐๓๖-๕๑๑๐๖๐ ต่อ ๑๕๒ , ๑๘๐
โทรสาร ๐๓๖-๕๒๒๕๑๕

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

คณะพยาบาลศาสตร์ จุฬาฯ
งานบริการการศึกษา
เลขที่หนังสือรับ 1040
ว.ด.ป. 5 พ.ย. 53
เวลา 08 40 น.

ที่ สบ ๐๐๒๗.๒๐๓ /๔๗๕๗ โรงพยาบาลพระพุทธบาท
จังหวัดสระบุรี ๑๘๑๒๐

๒๙ ตุลาคม ๒๕๕๓

คณะพยาบาลศาสตร์ จุฬาฯ
เลขที่รับ 3716
4 พ.ย. 53
เวลา 14.30 น.

เรื่อง ตอบรับการดำเนินการโครงการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

อ้างถึง หนังสือคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ที่ ศธ ๐๕๑๒.๑๑/๑๓๐๕
ฉบับวันที่ ๑๘ สิงหาคม ๒๕๕๓

ตามที่อ้างถึง แจ้งว่า นางสาวปัฐยาวัชร ปรากฏผล นิสิตชั้นปริญญาดุษฎีบัณฑิต คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กำลังดำเนินการวิจัยเพื่อเสนอเป็นวิทยานิพนธ์ เรื่อง "ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ" โดยมีศาสตราจารย์ ร.ต.อ หญิง ดร.ยุพิน อังสุโรจน์ เป็นอาจารย์ที่ปรึกษาดุษฎีนิพนธ์ร่วม และประสงค์จะขอเสนอรับการพิจารณาจริยธรรมการวิจัย ทั้งนี้ โครงการวิจัยได้ผ่านการคัดกรองการวิจัย เพื่อเข้ารับการพิจารณาจริยธรรมโดยกลไกที่เกี่ยวข้องระดับคณะแล้ว นั้น

ในการนี้ โรงพยาบาลพระพุทธบาทได้พิจารณาโครงการวิจัยดังกล่าวแล้ว เห็นควร ให้ดำเนินการได้

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายดนัย ทุริยานนท์)
ผู้อำนวยการโรงพยาบาลพระพุทธบาท

กลุ่มภารกิจด้านการพยาบาล
โทร ๐ ๓๖๒๖ ๖๑๑๑ ต่อ ๕๓๓๑ - ๕๓๓๒
โทรสาร ๐ ๓๖๒๖ ๖๑๑๒

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix P

Patient/participant information sheet

and

Informed consent form

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Participant Information Sheet

1. Title : The effect of comprehensive cardiac nursing program on health related quality of life in coronary heart disease patients.

2. Researcher name : Miss Padthayawad Pragodpol

3. Workplace : Borommarajonnani College of Nursing “Phra-putthabat” tambol Thankasem, ampur Phra-putthabat, Saraburi province, Thailand 18120.

Workplace phone : 036-266170

Home : 264 moo 8 Kietiyodnakorn tambol Kaopragham, ampur Maung, Lopburi Province, Thailand 15160.

Home phone : 036-486692,

Mobile phone : 08-1583-1530

E-mail : padthayawad@yahoo.com

4. Researcher’s statement

I am a graduate student in nursing science at Chulalongkorn University, doing a doctoral dissertation on the effect of comprehensive cardiac nursing program on health related quality of life in coronary heart disease patients. The purpose of this information is to tell you about the researcher, research objectives, research characteristics, and research procedures, as well as benefits, risks or harm that may occur in this study that allow you to make a clear decision about whether you would like to participate or not.

4.1 This study focuses on developing comprehensive cardiac nursing program to improve health related quality of life in first diagnosed coronary heart

disease patients. The objectives of the study are to examine the effect of comprehensive cardiac nursing program on health related quality of life in first diagnosed coronary heart disease patients.

4.2. The benefits of this study will develop comprehensive cardiac nursing program to improve HRQOL in first diagnosed CHD patients. This intervention emphasized in patient's risky health behavior management by using self-monitoring, self-evaluation, and self-reinforcement processes that significantly related to promote health status with improve HRQOL. The implementation of this program will help nurses providing effective care, help patients achieving higher HRQOL, and decreasing cost for caring this disease. Moreover, the finding from this study will provide direction for setting policies and integrating into practice guideline.

4.3 Quantitative approach will be employed in this study. The participants are patients who were first diagnosed CHD. Age equal or more than 20 years old, willing to collaborate and participate in this program throughout the process. Patients have competent to read and write Thai and willing to participate in the investigation. The patients will be excluded from the study if they have specified severe congestive heart failure, or severe arrhythmia, or severe uncontrolled hypertension (systolic blood pressure > 200 mmHg and/or diastolic blood pressure >100 mmHg), or physical problems that precluded exercise, or cognitive impairment, or unwillingness/ refusal to participate in the study.

4.4 Research settings are in-patient department at medication ward and out-patient department of two secondary health care settings at central part of Thailand.

4.5 After get permission from research settings as mention previously, researcher will authorize from head nurse to looking for and selecting first diagnosed

CHD patients who meet eligibility criteria from patients' data record and will invite them to participate in this study. Research assistant will record patients' diagnosis, medical data and laboratory investigations. Researcher will ask the participants for willingness to participate in this study before answer the questionnaires.

4.6. Participants will be asked to complete the questionnaires about personal data and health behaviors related to cardiac risk factors by using The Personal data and the health behaviors related to cardiac risk factors questionnaire and Health related quality of life by using QLI-cardiac version IV. It will take 20-30 minutes for this process.

4.7 This study is randomized controlled trial two groups pretest-posttest test research design that will be implemented for 8 weeks in each participant. The participants of this study will be randomly assigned into control or experimental groups. Participants who participated in experimental group will receive the usual care and comprehensive cardiac nursing program from intervener. Participants who participated in control group will receive only the usual care from health care profession.

4.8 Comprehensive cardiac nursing program is composed of the activities that will be implemented both hospital and participant's home including at least 1 family member in all phases. This program is composed of 5 phases and will be implemented and monitored the implementation of participant until 8 weeks; the first and second phases will be set at hospital for 45-60 minutes/time, the third phase will be set at participant's home for 60 minutes. The forth phase will use the telephone call for providing motivational support, reinforcing and monitoring risky health behaviors management, and the last phase will implement at out-patient department of hospital

at 8 weeks after discharge for evaluating the achievement of participant's long term goal, and reinforce the participant for continuing risky health behavior management in daily life. All phase are composed of the self-monitoring, self-evaluation, and self-reinforcement process for managing their risky health behaviors to reduce cardiac risk factors, reduce health problems, and improve HRQOL of participant.

4.9 To keep all information secret of participants. The data from questionnaires will be used coding, analyzed all data of all participants, and kept in the locked cabinet. Publication will not contain information that identified name of the participants.

4.10 The participants can withdraw from this study at any point of time without negative effect on the participants and their families.

4.11 Each participant has not received any payment.

4.12 The researcher will be available for all participants 24 hours when they have some questions regarding the study. They can contact the researcher by mobile phone: 08-1583-1530.

If you want to participate in this study as mention previously, please fill the information on the next page and you will get a copy of this document. Your signature confirms that the person who gathers the information answer all of your questions and you willing to participate in this study.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Informed Consent Form

Title: The effect of comprehensive cardiac nursing program on health related quality of life in coronary heart disease patients.

Code number: Participant…….

I was informed by the researcher, Padthayawad Pragodpol, Ph.D. student, Doctor of Philosophy in Nursing Science Program, Faculty of Nursing, Chulalongkorn University about the research objectives, characteristics, procedures, as well as benefits, risks or harm that may occur in this study. I already ask questions regarding the study until I thoroughly understand it.

I am willing to participate in this study. I know that I have a right to withdraw from the study at any time without providing reasons to the researcher. This will cause no negative effect on me or my family. The researcher will keep all answers of questionnaires in a locked cabinet and erased them after the data is no longer used for the purpose of the study, and will present only the findings of the study and no personal information.

If I have any question regarding the study, I can contact the researcher at 264 moo 8 Kietiyodnakorn Tambol Kaopragham, Ampur Maung, Lopburi Province, Thailand 15160. Home phone 036-486692, Mobile phone 08-1583-1530.

I am willing to participate in this study under the above conditions.

..……..... ..……
Place / Time (……)
Participant signature

..……..... ..……
Place / Time (Miss Padthayawad Pragodpol)
Main researcher signature

..……..... ..……
Place / Time (……)
Witness signature

ข้อมูลสำหรับประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย

(Participant information sheet)

1. ชื่อโครงการวิจัย : ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ

2. ชื่อผู้วิจัย : นางสาวปัฐยาวัชร ปรากฏผล
นิสิตคณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

3. สถานที่ปฏิบัติงาน : วิทยาลัยพยาบาลบรมราชชนนี พระพุทธบาท
อำเภอพระพุทธบาท จังหวัดสระบุรี

โทรศัพท์ที่ทำงาน : 036-266170

ที่อยู่ : บ้านเลขที่ 264 หมู่ 8 หมู่บ้านเกียรติยศนคร ตำบลเขาพระงาม อำเภอเมือง จังหวัดลพบุรี รหัสไปรษณีย์ 15160

โทรศัพท์ที่บ้าน : 036-486692

โทรศัพท์เคลื่อนที่ : 08-7797-2759

E-mail : padthayawad@yahoo.com

4. คำชี้แจงของผู้วิจัย

ข้าพเจ้าชื่อนางสาวปัฐยาวัชร ปรากฏผล นักศึกษาปริญญาเอกสาขาพยาบาลศาสตร์ คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย สนใจทำการวิจัยเกี่ยวกับโปรแกรมการการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ วัตถุประสงค์ของเอกสารฉบับนี้จัดทำขึ้นเพื่อชี้แจงเกี่ยวกับข้อมูลของผู้ทำวิจัย วัตถุประสงค์ ลักษณะและการดำเนินการวิจัย รวมถึงประโยชน์หรืออันตรายที่อาจเกิดขึ้นได้ ซึ่งท่านสามารถที่จะเข้าใจและตัดสินใจแสดงความประสงค์ในการเข้าร่วมหรือไม่เข้าร่วมในการวิจัยครั้งนี้ได้

4.1 โครงการวิจัยนี้มุ่งพัฒนาโปรแกรมการพยาบาลแบบรวบยอดเพื่อส่งเสริมคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจในครั้งแรก

4.2. ประโยชน์ของการวิจัยนี้ คือการพัฒนาโปรแกรมการพยาบาลแบบรวบยอดเพื่อพัฒนาคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดหัวใจที่ได้รับการวินิจฉัยในครั้งแรก โปรแกรมการการพยาบาลแบบรวบยอดนี้มุ่งเน้นการใช้กระบวนการกำกับติดตามตนเอง การประเมินผลตนเอง และการสร้างเสริมแรงจูงใจตนเองตามทฤษฎีการจัดการตนเอง ในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ อันจะส่งเสริมให้ผู้ป่วยมีภาวะสุขภาพที่ดีและคุณภาพชีวิตที่ดี การนำโปรแกรมนี้ไปใช้จะช่วยให้พยาบาลสามารถปฏิบัติการพยาบาลได้อย่างมี

ประสิทธิภาพ ช่วยยกระดับคุณภาพชีวิตผู้ป่วยและช่วยลดค่าใช้จ่ายในการรักษาพยาบาลโรคหลอดเลือดหัวใจได้ นอกจากนี้สามารถนำผลการศึกษาวิจัยนี้ไปใช้ในการกำหนดนโยบายและมาตรฐานการพยาบาลในการดูแลผู้ป่วยโรคหลอดเลือดหัวใจต่อไปได้

4.3 การวิจัยนี้เป็นการวิจัยเชิงปริมาณ ดำเนินการเก็บข้อมูลจากผู้ป่วยที่ได้รับการวินิจฉัยว่าเป็นโรคหลอดเลือดหัวใจในครั้งแรก มีอายุตั้งแต่ 20 ปีขึ้นไป ไม่มีภาวะแทรกซ้อนที่เป็นอุปสรรคต่อการเข้าร่วมการศึกษาวิจัย ได้แก่ มีอาการหอบเหนื่อย หายใจลำบาก อ่อนเพลียมาก เจ็บหน้าอก และระดับสัญญาณชีพไม่คงที่ มีภาวะหัวใจวาย หัวใจเต้นผิดจังหวะ ความดันโลหิตสูงที่ไม่สามารถควบคุมได้ ความดันช่วงบนมากกว่า 200 mmHg ความดันช่วงล่างมากกว่า 100 mmHg หรือปัญหาทางร่างกายที่ไม่สามารถออกกำลังกายได้ ผู้ป่วยมีสติสัมปชัญญะดี สามารถอ่านและเขียนภาษาไทยได้และยินดีที่จะเข้าร่วมในการศึกษาวิจัยครั้งนี้ จำนวนทั้งสิ้น 70 คน

4.4 สถานที่เก็บรวบรวมข้อมูล คือหอผู้ป่วยในได้แก่ หอผู้ป่วยอายุรกรรมและหออภิบาลผู้ป่วยหนัก ของโรงพยาบาลประจำจังหวัดในเขตภาคกลาง จำนวน 2 โรงพยาบาล คือโรงพยาบาลสิงห์บุรี และโรงพยาบาลอ่างทอง

4.5 หลังได้รับอนุมัติให้เก็บรวบรวมข้อมูลจากโรงพยาบาลดังกล่าวข้างต้นแล้ว ผู้วิจัยจะขออนุญาตหัวหน้าหอผู้ป่วยอายุรกรรมและหออภิบาลผู้ป่วยหนัก เพื่อตรวจสอบเวชระเบียนของผู้ป่วยที่มารับการรักษาด้วยโรคหลอดเลือดหัวใจในครั้งแรก เพื่อศึกษาและคัดเลือกผู้ป่วยที่มีคุณสมบัติตามเกณฑ์ที่กำหนดมาเป็นผู้มีส่วนร่วมในการวิจัย และผู้วิจัยจะสอบถามความสมัครใจของผู้ป่วยที่มีคุณสมบัติดังกล่าวในการเข้าร่วมการศึกษาวิจัย ถ้าผู้ป่วยยินยอมเข้าร่วมในการศึกษาครั้งนี้ ผู้วิจัยจะบันทึกผลการวินิจฉัยโรค ข้อมูลทางการแพทย์ และผลการตรวจทางห้องปฏิบัติการในแบบบันทึกการรักษาพยาบาล และผู้ช่วยวิจัยจะเป็นผู้เก็บรวบรวมโดยให้ผู้มีส่วนร่วมในการวิจัยตอบแบบสอบถาม

4.6 เมื่อท่านตัดสินใจเข้าร่วมการวิจัยแล้ว ผู้มีส่วนร่วมในการวิจัยจะต้องตอบแบบสอบถามเกี่ยวกับข้อมูลส่วนบุคคล พฤติกรรมสุขภาพที่เกี่ยวข้องกับปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ และแบบทดสอบคุณภาพชีวิตสำหรับผู้ป่วยโรคหลอดเลือดหัวใจ จำนวน 2 ครั้ง คือ วันที่ 2 ของการเข้ารับการรักษาที่โรงพยาบาล ณ ห้องประชุมแผนกผู้ป่วยในและ 2 เดือนหลังจำหน่ายออกจากโรงพยาบาล ณ ห้องประชุม แผนกผู้ป่วยนอก เมื่อท่านมาตรวจตามแพทย์นัดที่โรงพยาบาล โดยใช้เวลาในการตอบแบบสอบถามประมาณ 20-30 นาที

4.7 การศึกษาวิจัยครั้งนี้เป็นการวิจัยแบบทดลอง ผู้เข้าร่วมศึกษาวิจัยแต่ละท่านจะต้องใช้เวลาทั้งสิ้น 8 สัปดาห์ ผู้เข้าร่วมการศึกษาวิจัยจะถูกกำหนดเป็น 2 กลุ่ม โดยกลุ่มทดลองจะได้รับการ

ดูแลช่วยเหลือตามปกติจากพยาบาลและได้รับโปรแกรมการพยาบาลแบบรวบยอดจากผู้วิจัย สำหรับกลุ่มควบคุมจะได้รับการดูแลช่วยเหลือตามปกติจากพยาบาล

โปรแกรมการพยาบาลแแบบรวบยอด คือโปรแกรมการพยาบาลที่มุ่งเน้นให้ผู้ป่วยมีความรู้ความเข้าใจ ความสามารถในการจัดการตนเองเกี่ยวกับโรคหลอดเลือดหัวใจ โดยเฉพาะการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ ได้แก่ การจัดการเรื่องอาหาร การมีกิจกรรมและการออกกำลังกาย การสูบบุหรี่ และความเครียด อันประกอบด้วยกระบวนการกำกับติดตามตนเอง กระบวนการประเมินผลตนเอง และกระบวนการสร้างเสริมแรงจูงใจในตนเอง ตามแนวคิดทฤษฎีการจัดการตนเอง เพื่อพัฒนาให้ผู้ป่วยมีภาวะสุขภาพและคุณภาพชีวิตที่ดี โปรแกรมการพยาบาลแบบรวบยอดนี้ แบ่งออกเป็น 4 ระยะ ได้แก่ ระยะการประเมินพฤติกรรมเสี่ยงเกี่ยวกับโรคหลอดเลือดหัวใจ ระยะเตรียมการเพื่อการจัดการตนเอง ระยะปฏิบัติในการจัดการตนเอง และระยะประเมินผลการจัดการตนเอง จากทั้ง 4 ระยะนี้แบ่งกิจกรรมที่ต้องปฏิบัติทั้งที่โรงพยาบาลและที่บ้านของผู้ป่วยที่เข้าร่วมการศึกษาวิจัย ซึ่งในแต่ละระยะจะประกอบด้วยการใช้กระบวนการกำกับติดตาม การประเมินผลตนเอง และการสร้างเสริมแรงจูงใจในการจัดการพฤติกรรมสุขภาพเพื่อลดปัจจัยเสี่ยงของโรคหลอดเลือดหัวใจ กิจกรรมของโปรแกรมการพยาบาลแบบรวบยอดนี้เริ่มตั้งแต่ตั้งแต่วันที่ 2 และ 3 ของการเข้ารับการรักษาในโรงพยาบาล มีการติดตามเยี่ยมบ้าน 1 ครั้ง ในสัปดาห์ที่ 2 หลังจำหน่ายออกจากโรงพยาบาล มีการโทรศัพท์ติดตาม สร้างเสริมแรงจูงใจในการปฏิบัติการจัดการพฤติกรรมเสี่ยงของโรคหลอดเลือดหัวใจโดยพยาบาลผู้ดูแล 2 ครั้ง ในสัปดาห์ที่ 4 และ 6 หลังจำหน่ายออกจากโรงพยาบาล หลังจากนั้นผู้วิจัยมีการติดตามเพื่อประเมินผลการศึกษาวิจัยที่โรงพยาบาล เมื่อครบ 8 สัปดาห์หลังจำหน่ายออกจากโรงพยาบาล รวมระยะเวลาทั้งสิ้น 2 เดือน ตั้งแต่เริ่มโปรแกรมการพยาบาลแบบรวบยอดจนถึงการประเมินผลเมื่อสิ้นสุดโปรแกรม

4.8 ผู้มีส่วนร่วมในการวิจัยมีสิทธิ์ปฏิเสธหรือถอนตัวจากโครงการวิจัยนี้ได้ตลอดเวลาโดยไม่ต้องแจ้งให้ทราบล่วงหน้า และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยจะไม่มีผลกระทบต่อการบริการและการรักษาที่สมควรจะได้รับแต่ประการใด

4.9 ความเสี่ยงที่อาจจะเกิดขึ้นเมื่อเข้าร่วมวิจัย ผู้มีส่วนร่วมในการวิจัยอาจเกิดอาการอ่อนเพลียจากการตอบแบบสอบถาม ทั้งนี้ท่านไม่ต้องรีบตอบคำถามทั้งหมด ท่านสามารถพักระหว่างตอบแบบสอบถามได้ สำหรับผู้มีส่วนร่วมในกลุ่มทดลอง ขอให้ท่านมั่นใจว่าเมื่อท่านปฏิบัตตามโปรแกรมการพยาบาลแบบรวบยอดตามที่ได้รับแล้วนั้น จะไม่เกิดอันตรายร้ายแรงกับท่านเนื่องจากโปรแกรมนี้ได้ผ่านการศึกษาค้นคว้ามาเป็นอย่างดี มีการนำไปใช้อย่างแพร่หลายในผู้ป่วยโรคหลอดเลือดหัวใจนานาประเทศทั่วโลก และผ่านการตรวจสอบจากผู้เชี่ยวชาญด้านโรค

หลอดเลือดหัวใจในประเทศไทย จำนวน 7 ท่าน กรณีที่ท่านมีอาการผิดปกติระหว่างการเข้าร่วมศึกษาวิจัยนี้ ท่านจะได้รับการดูแลช่วยเหลือปฐมพยาบาลเบื้องต้นตามมาตรฐานการดูแลผู้ป่วยโรคหลอดเลือดหัวใจจากผู้วิจัย

4.10 การวิจัยครั้งนี้ไม่มีการจ่ายค่าตอบแทนแก่ผู้มีส่วนร่วมในการวิจัย และผู้มีส่วนร่วมในการวิจัยไม่มีค่าใช้จ่ายใด ๆ เพิ่มเติมทั้งสิ้น

4. 11 หากท่านตัดสินใจไม่เข้าร่วมในโครงการวิจัยนี้ ท่านก็จะได้รับการตรวจรักษาโรคของท่านตามวิธีการที่เป็นมาตรฐาน

4.12 การรักษาความลับของผู้มีส่วนร่วมในการวิจัย ข้อมูลส่วนตัวของท่านที่ได้จากแบบสอบถามจะถูกเก็บรักษาไว้ในที่ปลอดภัยและเป็นความลับไม่เปิดเผยต่อสาธารณ นำไปวิเคราะห์โดยการลงรหัสและวิเคราะห์ในภาพรวมไม่แยกเฉพาะรายเป็นรายบุคคล ผลการวิจัยจะนำเสนอในภาพรวม

4.13 หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วไม่ปิดบัง

4.14 หากท่านอ่านเอกสารนี้แล้วยังมีข้อความที่ท่านไม่เข้าใจ โปรดสอบถามผู้วิจัยทันทีเพื่อให้ช่วยอธิบายจนกว่าท่านจะเข้าใจดี หรือท่านอาจจะปรึกษาหารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัวของท่าน หรือแพทย์ท่านอื่น ก่อนการตัดสินใจเข้าร่วมหรือไม่เข้าร่วมการศึกษาวิจัยได้

4.15 หากท่านได้รับการปฏิบัติไม่ตรงตามที่ได้ระบุไว้ในข้อมูลสำหรับประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย ท่านจะสามารถติดต่อกับคณะกรรมการจริยธรรมวิจัยทางการพยาบาลได้ที่ประธานคณะกรรมการจริยธรรมการวิจัยทางการพยาบาลโรงพยาบาลสิงห์บุรี หมายเลขโทรศัพท์ 036-522507-11 ต่อ 152 และคณะกรรมการจริยธรรมการวิจัยในมนุษย์ ได้ที่ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์ โรงพยาบาลอ่างทอง หมายเลขโทรศัพท์ 035-615111

ท่านสามารถซักถามเพิ่มเติมได้ก่อนลงนามในใบยินยอม โดยข้าพเจ้ายินดีตอบคำถามในสิ่งที่ท่านสนใจและเกี่ยวข้องในการวิจัยครั้งนี้ ลายมือชื่อของท่านจะแสดงให้ทราบว่าท่านได้อ่านข้อความในเอกสาร รับทราบและตัดสินใจเข้าร่วมในการวิจัยครั้งนี้แล้ว หากท่านมีคำถามหรือข้อสงสัย รวมถึงประสงค์ที่จะถอนตัวจากการวิจัยครั้งนี้ ท่านสามารถซักถามหรือแจ้งความต้องการของท่านแก่ผู้วิจัยได้ตลอดเวลา โดยติดต่อได้ทางหมายเลขโทรศัพท์เคลื่อนที่ 08-7797-2759

ถ้าท่านประสงค์ที่จะให้ความร่วมมือในการศึกษาวิจัยดังกล่าว โปรดกรอกข้อมูลในเอกสารหน้าถัดไป โดยท่านจะได้รับสำเนาเกี่ยวกับเอกสารนี้ 1ชุด ลายเซ็นของท่านเป็นการแสดงว่าผู้เก็บข้อมูลได้ตอบคำถามข้อสงสัยของท่านทุกข้อแล้วและท่านสมัครใจที่จะให้ความร่วมมือในศึกษาวิจัยนี้

ใบยินยอมของผู้มีส่วนร่วมในการวิจัย

(Informed Consent Form)

ชื่อโครงการ : ผลของโปรแกรมการพยาบาลแบบรวบยอดต่อคุณภาพชีวิตผู้ป่วยที่ได้รับการวินิจฉัยโรคหลอดเลือดหัวใจ

เลขที่ผู้มีส่วนร่วมในการวิจัย……..

ข้าพเจ้าได้รับทราบข้อมูลจากผู้วิจัย ชื่อ นางสาวปัฐยาวัชร ปรากฏผล นิสิตปริญญาเอกหลักสูตรพยาบาลศาสตรดุษฎีบัณฑิต คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ถึงวัตถุประสงค์ ลักษณะและแนวทางการวิจัย รวมทั้งรับทราบถึงผลดีและความเสี่ยงที่อาจจะเกิดขึ้น โดยข้าพเจ้าได้ซักถาม ทำความเข้าใจเกี่ยวกับการศึกษาดังกล่าว เป็นที่เรียบร้อยแล้ว

ข้าพเจ้ายินดีเข้าร่วมการศึกษาครั้งนี้โดยสมัครใจ และมีสิทธิที่จะขอออกจากการเข้าร่วมการวิจัยนี้ได้ทุกเวลา โดยไม่จำเป็นต้องแจ้งเหตุผล ซึ่งไม่เกิดผลเสียใดๆ ต่อข้าพเจ้าและครอบครัว โดยผู้วิจัยรับรองว่าจะเก็บข้อมูลที่ได้จากการตอบแบบสอบถามไว้เป็นความลับ เก็บรักษาไว้ในที่ปลอดภัยและจะทำลายข้อมูลดังกล่าวเมื่อเสร็จสิ้นการใช้ข้อมูลตามวัตถุประสงค์ของการวิจัย และจะเปิดเผยเพียงผลการวิจัยโดยไม่มีข้อมูลส่วนบุคคลแต่อย่างใด

หากข้าพเจ้ามีข้อข้องใจหรือข้อคำถามใดๆ ที่เกี่ยวข้องในการวิจัยดังกล่าว หรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับข้าพเจ้า ข้าพเจ้าสามารถติดต่อสอบถามผู้วิจัยซึ่งอาศัยอยู่ ณ บ้านเลขที่ 264 หมู่ 8 หมู่บ้านเกียรติยศนคร ตำบลเขาพระงาม อำเภอเมือง จังหวัดลพบุรี รหัสไปรษณีย์ 15160 โทรศัพท์ 036-486692 โทรศัพท์เคลื่อนที่ 08-7797-2759 ได้ตลอดเวลา

ข้าพเจ้าได้เข้าใจข้อความในเอกสารชี้แจงผู้มีส่วนร่วมในการวิจัย และใบยินยอมของผู้มีส่วนร่วมในการวิจัยนี้โดยตลอดแล้ว ข้าพเจ้ายินดีเข้าร่วมการศึกษานี้ภายใต้เงื่อนไขที่ได้ระบุไว้ในข้างต้น จึงลงลายมือชื่อไว้ ณ ที่นี้

.....……	…….....
สถานที่/วันที่	(……)
	ลงนามผู้มีส่วนร่วมในการวิจัย
……..	.....
สถานที่/วันที่	(นางสาวปัฐยาวัชร ปรากฏผล)
	ลงนามผู้วิจัยหลัก
…….	.....
สถานที่/วันที่	(……)
	ลงนามพยาน

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Appendix Q

List of Experts

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

List of experts:

1. Assisstant Professor Wasana Ruiysungnoen, Ph.D. (Nursing)

Faculty of Nursing, Khon Kean University

2. Assisstant Professor Achara Sukonthasarn, Ph.D. (Nursing)

Faculty of Nursing, Chaing Mai University

3. Associate Professor Usavadee Asdornwised, Ph.D. (Nursing)

Faculty of Nursing, Mahidol University

4. Assistant Professor Kusuma Khuwatsamrit, Ph.D. (Nursing)

Department of Nursing, Faculty of Medicine, Ramathibodi Hospital,

Mahidol University

5. Associate Professor Suphot Srimahachota, M.D.

Faculty of Medicine, Chulaongkorn University

6. Mrs. Pinthong Rattanaphuchong

Advanced Practitioner Nurse (Cardiovascular Nursing),

Intensive Care Unit, Khon Kean hospital

7. Major. Watthakorn Rakissara

Advanced Practitioner Nurse (Cardiovascular Nursing),

Cardio-Thoracic Intensive care unit, Phramongkutklao hospital

8. Associate Professor Suthee Polphong

Mass Media communication, Faculty of Communication arts,

Chulaongkorn University

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

BIOGRAPHY

Padthayawad Pragodpol was born in 1970 at Lopburi province. She received a Bachelor of Nursing Science from Boromrajonani College of Nursing Saraburi in 1992. She got a Master of Nursing Science (Adult Nursing), Khon Kean University in 1996. She has been a nurse instructor at Boromrajonnani Phraputtabath Nursing College, Saraburi since 1992 to present. She had received the scholarship for Ph.D. study from Praboromarajchanok Institute for Health Care Workforce Development and research grant support from Graduated School, Chulalongkorn University. She had studied Philosophy Program in Nursing Science, Faculty of Nursing, Chulalongkorn University since 2006-2011.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย