PERCEIVED ROLE STRAIN IN THAI FAMILY CAREGIVERS OF HEART FAILURE PATIENTS

By

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ABSTRACT

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Background: Family caregivers (FCGs) of heart failure (HF) patients in rural areas in Thailand tend to experience role strain because they complete difficult and time consuming HF caregiving tasks for long periods of time. **Framework:** This study was guided by the Role Strain Theory (Goode, 1960). Specific Aims: The study aims were to: (1) Determine the relationship of FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support to caregiver role conflict and role strain; (2) Examine the impact of difficult and time consuming HF caregiving tasks on caregiver role conflict; and (3) Test the belief in the belief in Buddhist Karma Rule and social support as possible moderating factors on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks. Methods: This study had a cross-sectional descriptive design. The relationships among HF patient and FCG characteristics, difficult and time consuming caregiving tasks, belief in the Buddhist Karma Rule, participation in Buddhist activities, and social support on levels of caregiver role conflict and role strain were explored by conducting multiple regression procedures. The moderating effects of belief in the Buddhist Karma Rule, participation in Buddhist activities, and social support on the relationship between caregiver role conflict and role strain were tested using a general linear model. Sample: A convenience sample of 144 rural Thai FCGs of HF patients were recruited from an outpatient clinic in the Buddhasothorn Hospital of rural eastern Thailand. Results: Specific Aim 1: Caregiver gender and difficult caregiving tasks were positively correlated with caregiver role

conflict (r= .267 to .664), while social support was negatively correlated with caregiver role conflict (r = -.579). Caregiver gender, difficult caregiving tasks, and social support were significant predictors of caregiver role conflict (p < .05). Caregiver gender, difficult caregiving tasks, caregiver physical function, and HF functional class had positive correlations with caregiver role strain (r = .237 to .577). Participation in Buddhist activities, and social support were negatively correlated with caregiver role strain (r = -.631 to -.710). Caregiver gender, difficult caregiving tasks, physical function, HF functional class, participation in Buddhist activities, and social support were found to be significant predictors of caregiver role strain (p < p.05). Specific Aim 2: Difficult and time consuming caregiving tasks were positively correlated with role conflict (r = .577 to .664). Difficult caregiving tasks was a significant influence on role conflict (p < .000) but time consuming caregiving tasks was not significantly correlated with role conflict (p = .291). Specific Aim 3: Caregiver social support, belief in the Buddhist Karma Rule and participation in Buddhist activities were negatively correlated with caregiver role conflict and role strain (r = -.579 to -.710). Caregiver social support, belief in the Buddhist Karma Rule and participation in Buddhist activities were significant moderating factors on the relationship between caregiver role conflict and role strain (p < .05). **Implications**: The study results can be used to develop of evidence-based caregiver screening and support programs to evaluate, or relieve, role conflict and role strain in FCGs in order to enhance physical and psychological health. Explicit guidelines, standards, and protocols should be developed to deliver care for FCGs of HF patients and other chronically ill patients in rural Thailand. Future research should examine specific types of caregiving tasks and Buddhist activities that influence caregiver role conflict and role strain in a larger sample.

This dissertation is dedicated to my family:

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Chapter 1

Introduction

In Thailand, the prevalence of HF patients has increased approximately two or threefold compared to the last two decades (Ministry of Public Health of Thailand, 2008). HF is a leading cause of emergency department visits requiring outpatient services, and HF consumes a large amount of the budget spent by the Thai government each year (Triamchanchoochai, Yamwong, & Sritara, 2009). Due to the increasing prevalence of heart disease, HF has been identified as a major chronic health problem (Krethong, Jirapaet, Jitpanya, & Sloan, 2008). HF was included in the Thai National Health Plan for improved management (Ministry of Public Health of Thailand).

HF is a chronic disease that affects HF patients' physical, emotional, and social health. Due to their deteriorated heart function, HF patients often develop many troublesome symptoms (Moser &, Dracup, 2000; Riegel & Dickson, 2008) that require care from both formal caregivers such as physicians and nurses and informal caregivers such as spouses, children, and other family members (Saunders, 2008). The physically undesirable symptoms of HF include dyspnea, cough, edema, loss of appetite, constipation as result of bed rest, increase of urine output as result of diuretics, fatigue, and problems sleeping (Pressler, Gradus-Pizlo, Chubinski, Smith, Wheeler, Wu, & Sloan, 2009; Riegel, Lee, Dickson, & Carlson, 2009).

Additionally, HF patients may experience decreased levels of social activity as a result of fatigue and anxiety (Falk, Patel, Swedberg, & Ekman, 2009). HF patients frequently require the assistance of family members in dealing with monitoring their symptoms, administering medication, controlling fluid and sodium levels, monitoring side effects of medications, and assisting with physical disabilities (Pressler et al., 2009). Providing emotional and social support

is also an important aspect of caregiving (Bakas, Pressler, Johnson, Nauser, & Shaneyfelt, 2006; Falk et al., 2009).

Family members have been identified as a major source of primary care for chronically ill patients in Thailand (Sirapho-Ngam, 2003; Sirapho-Ngam, Putwatana, & Kuaprom, 2001). Family caregivers (FCGs) are often required to provide informal care for HF patients at home (Hwang, Fleischmann, Howie-Esquivel, Stotts, & Dracup, 2011; Pressler et al., 2009). If HF patients do not receive appropriate caregiving at home, they generally face worsening physical, psychological, and social problems (Falk et al., 2009; Riegel et al. 2009). Consequently, HF patients are frequently admitted to hospitals with severe complications and poor prognoses that lead to morbidity and mortality (Bakas et al., 2006). Also, in Thailand, HF patients who received poor care from FCGs at home were frequently admitted to the hospital, causing many HF patients to experience physical and psychological distress (Dedkhard, 2011).

Victims of HF are generally older adults who require difficult formal care and treatments in health care settings and informal care at home, particularly those with functional class II to IV HF (New York Heart Association (NYHA), 2010; Riegel et al., 2009). HF patients are classified in one of four categories: functional class I, II, III or IV (NYHA, 2010). HF patients with functional class I have no limitations when performing ordinary activities such as eating, walking, bathing, shopping, and preparing meals (NYHA, 2010). HF patients with functional class I can manage their daily activities and HF symptoms. However, these HF patients require some medical and emotional care from their FCGs. Most FCGs of HF patients with functional class I can easily complete their caregiving tasks and other role obligations, resulting in low levels of role conflict, role strain, and other emotional distress. Therefore, FCGs of HF patients with functional class I were not included in this study.

HF patients with functional class II to IV experience varied physical function limitations based on their HF functional class. With regard to HF functional class II, patients experience some physical limitations (NYHA, 2010) and may require more medical, physical, and emotional care from FCGs than HF patients with functional class I. Some FCGs who provide care for HF patients with functional class II may experience role conflict and role strain due to providing care for HF patients along with completing other role obligations, particularly FCGs who have less experience in caring for HF patients.

HF patients with functional class III experience marked limitation of physical activities (NYHA, 2010) and require more care from their FCGs, including physical, medical, and emotional care. Many FCGs of HF patients with functional class III may experience role conflict and role strain from providing care for HF patients for long periods of time.

Most FCGs of HF patients with functional class IV provide complete care for HF patients because these patients cannot perform any daily activities by themselves (NYHA, 2010). Additionally, functional class IV HF patients develop more symptoms of HF (Albert, Trochelman, Li, & Lin, 2010) that require more care from their FCGs. This may lead many FCGs to experience high levels of role conflict and role strain because they may not complete their caregiver and other role obligations.

HF patients with functional class II to IV frequently report high levels of distress from poorly controlled symptoms, poor physical and emotional functioning, and social and role dysfunction. FCGs of HF patients with functional class II to IV were included in this study because they may experience role conflict and role strain from caring for HF patients. FCGs of HF patients with functional class II to IV may experience emotional distresses that include caregiver role conflict and role strain due to dealing with difficult and time consuming HF

caregiving tasks (Bakas et al., 2006). *Role conflict* refers to the incompatibility between varied role demands (Rizo, House, & Lirtzman, 1970; Seib & Muller, 1999). *Role strain* refers to a perceived difficulty in completing multiple roles (Goode, 1960, p. 483). Role conflict and role strain are identified as subtypes of emotional distress that FCGs experience due to caring for HF patients (Dilworth-Anderson, Williams, & Cooper, 1999). Studies show that FCGs of HF patients reported higher emotional distress than FCGs of patients with other chronic illnesses because caregiving tasks for HF patients are often difficult and time consuming (Bakas et al., 2006; Pressler et al., 2009).

HF symptoms have been shown to reduce patients' functional capacity, and cause HF patients to become more dependent on FCGs (Albert et al., 2010). FCGs who care for HF patients with functional class II to IV tend to experience emotional distress and other negative outcomes because they deal with the difficult and time consuming medical, physical, and emotional care tasks of severe stage HF patients (Bakas et al., 2006). *Medical* care tasks for HF patients include multidrug administration, sodium control, and symptom monitoring (Pressler et al., 2009). *Physical* care tasks consist of assistance with mobility, housework, preparing meals, and aiding HF patients with other daily activities (Friedman, Lyness, Delavan, Li, & Barker, 2008). *Emotional* care tasks include assisting in relieving the sadness, stress, anxiety, and worries of HF patients (Bakas et al., 2006).

There have been many factors associated with caregiver role conflict and role strain, including FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support (Hecht, 2001; Kramer & Kipnis, 1995; Williams, Dilworth-Anderson, & Goodwin, 2003). Several FCG and HF patient characteristics have been shown to influence difficult and time consuming HF caregiving tasks. These tasks

have different impacts on levels of caregiver role conflict and role strain. The proposed study relies on primary data of rural Thai FCGs of HF patients that will be collected in Buddhasothorn Hospital of eastern Thailand. The purpose of this study is to examine the impacts of FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, and social support on caregiver role conflict and role strain in a sample of FCGs. The impacts of difficult and time consuming HF caregiving tasks on role conflict and role strain were examined. The belief in the Buddhist Karma Rule and social support, which have been identified as possible moderating factors of the relationship between caregiver role conflict and role strain, were also examined.

FCGs might experience role conflict due to caring for HF patients with functional class II to IV. As previously mentioned, levels of role conflict are impacted by FCG and HF patient characteristics, and difficult and time consuming HF caregiving tasks. The following section will present and discuss caregiver role conflict.

Caregiver Role Conflict

Role conflict refers to the feeling of difficulty to fulfill role obligations due to incompatibility of pressures within different demands of caregiver, family, worker, and social roles (Rizo, House, & Lirtzman, 1970; Seib & Muller, 1999). FCGs who complete caregiving roles in addition to other social roles may develop role conflict (Archbold, Stewart, Greenlick, & Harvath, 1990; Beitman et al., 2004; Bernard & Guarnaccia, 2003). Difficult and time consuming caregiving tasks required by HF patients may interrupt other role demands and lead FCGs to experience role conflict. In other words, a caregiving role disturbs other family and social role obligations that affect FCGs' role expectations. This leads FCGs to develop negative feelings due to role conflict.

FCGs complete difficult and time consuming HF caregiving tasks for their HF patient relatives that may hinder their ability to perform spouse, parent, daughter/son, leisure, and work role obligations. FCGs may develop role conflict because they cannot complete their role obligations as they are expected. Studies show that role conflict and role strain are related (Gordon, Pruchno, Wilson-Genderson, Murphy, & Rose, 2011). More specifically, role conflict is identified as an antecedent of role strain (Lengacher, 1993). FCGs who deal with some difficult care tasks required by HF patients may not complete caregiving roles, leading them to experience role conflict. Furthermore, FCGs who experience role conflict tend to develop role strain because they cannot balance all role obligations due to the lack of time and resources.

Caregiver Role Strain

Caregiver role strain can be defined as the subjective experience of FCGs in caregiving situations that include stress, confinement, and difficulty (Archbold et al., 1990). As previously mentioned, role conflict is correlated to role strain. FCGs who cannot complete their multiple role obligations develop a sense of role conflict. Role conflict leads these FCGs to experience role strain because they feel that all caregiving situations are stressful. HF patients with functional class II to IV often develop HF symptoms, including shortness of breath, fatigue, edema, and activity intolerance that require FCGs to provide care for these patients (NYHA, 2010).

Due to the development of many severe symptoms, FCGs have to provide extensive levels of care for the medical, physical, and emotional needs of HF patients with functional class II to IV. These patients are moderately or severely disabled, either physically or cognitively (Pressler et al., 2009). FCGs may spend time and resources to complete caregiving roles until they cannot complete other role obligations.

Research has shown that role conflict impacts levels of role strain (Beitman et al., 2004; Mui, 1995; Yang, Lengacher, Beckstead, & Shiau, 2008). FCGs who that experience role conflict tend to report more role strain than FCGs without role conflict (Mui, 1995; Gordon et al., 2011). Role conflict and role strain are influenced by factors such as individual characteristics and types of care tasks. Many studies have shown that levels of involvement and amount of care for chronically ill patients are strong predictors of FCGs' physical and emotional distress (Haley, LaMonde, Han, Burton, & Schonwetter, 2003; Pinquart & Sorensen, 2005; Schulz, Belle, Czaja, McGinnis, Stevens, & Zhang, 2004). HF patients at advanced stages require more care from family members to deal with their symptoms and health problems. Difficult and time consuming HF caregiving tasks are significant factors that impact levels of caregiver role conflict and role strain. The following section will further explore the concept of difficult and time consuming HF caregiving tasks of FCGs of HF patients.

HF Caregiving Tasks

HF caregiving tasks involve the needs of patients in assisting with difficult and time consuming medical, physical, emotional, and social care tasks. Because of developing HF symptoms, HF patients require difficult treatment and care such as managing adverse symptoms and regimenting medication and diet to enhance their health and reduce mortality and unnecessary hospitalization (Albert et al., 2010; Coelho, Ramos, Prata, Bettencourt, Ferreira, & Cerqueira-Gomes, 2005). The following section will discuss difficult HF caregiving tasks that affect level of role conflict and role strain in FCGs.

Difficult HF Caregiving Tasks

Regarding the difficult HF caregiving tasks, HF patients have to change their lifestyle and behavior in accordance with treatment and functional class, particularly HF patients with

functional class III and IV. HF patients with functional class II can manage their daily activities and HF symptoms and require some medical and emotional care from their FCGs. FCGs report that significant care tasks for HF patients include assistance with activities of daily living (ADL) and instrumental activities of daily living (IADL), multiple drug administration, HF symptom monitoring, and sodium control. Many tasks require a skillful FCG to detect and manage the HF patient (Bakas et al., 2006). In dealing with these care tasks, FCGs may lack skills needed to handle tasks such as obtaining information about HF medication side effects and symptom monitoring, preparing a restricted sodium diet, and providing physical care.

Specifically, *difficult HF caregiving tasks* refer to caregiving tasks that require specific skills to deal with them (Bakas, Lewis, & Parsons, 2001). When FCGs perform the caregiving role for HF patients, many deal with difficult caregiving tasks that include the medical, physical, and emotional care of HF patients. Studies have found that medical and emotional tasks are the most difficult reported by FCGs (Bakas et al., 2006; Pressler et al., 2009). Additionally, FCGs who complete difficult HF caregiving tasks tend to report high levels of emotional distress. FCGs may have less experience caring for HF patients, which lead many to face problems completing difficult HF caregiving tasks. This is supported by studies that state that FCGs who handle difficult HF caregiving tasks tend to experience emotional distress and other negative health outcomes (Albert et al., 2010; Bakas & Bungerner, 2002).

FCGs of HF patients may deal with difficult and/ or time consuming HF caregiving tasks that lead them to face role conflict and role strain. Time consuming HF caregiving tasks will be discussed in the following section.

Time Consuming HF Caregiving Tasks

FCGs who occupy caregiving roles in addition to other social roles may develop role

conflict and role strain through performing time consuming HF caregiving tasks. Many studies have shown that medical, ADL, and IADL tasks are time consuming (Bakas et al., 2006; Hetch, 2001). FCGs' time can be limited so they must allocate their time to perform the caregiving role as well as other social roles. FCGs may experience problems in dealing with other roles because of the lack of time to complete all role obligations. HF caregiving tasks such as medical, physical, and emotional tasks frequently require a great deal of time. This may lead FCGs to develop the feeling of role conflict because they have no time to complete the caregiving role as well as their other roles. FCGs who that experience role conflict may view the caregiving situation as stressful, and develop a sense of role strain.

In summary, FCGs of HF patients may experience negative feelings while completing a caregiving role that leads them to develop role conflict. FCGs who develop role conflict frequently may not balance their role obligations. This may lead many FCGs to have difficulty performing their caregiving role. FCGs of HF patients often complete difficult and time consuming HF caregiving tasks, which causes FCGs to experience conflict of role demands resulting in role conflict and role strain. Difficult and time consuming HF caregiving tasks in this study include medical, physical, and emotional tasks. The following section will discuss the types of medical, physical, and emotional care tasks.

Types of HF Caregiving Tasks

In this study, significant care tasks of HF patients will be further examined, which includes medical, physical, and emotional care tasks. Earlier studies have shown that medical, physical, and emotional care is reported by FCGs as difficult and time consuming tasks that lead them to experience problems managing their role as caregiver with other obligations (Bakas et al., 2006; Pressler et al., 2009).

Medical care tasks refer to the tasks of drug administration, sodium control, and observation and monitoring of HF symptoms (edema, breathlessness, cough, and fatigue) required for FCGs who have to care for HF patients. FCGs significantly help HF patients to achieve goals by providing support regarding medical care. FCGs may experience problems in regard to difficulty detecting worsening symptoms and dealing with severe symptoms. Additionally, these FCGs may face problems handling drug and sodium control of HF patients and preparing the restricted sodium diet. FCGs may also need to spend time closely observing and providing medical care for HF patients. In other words, medical tasks are identified as frequently difficult HF caregiving tasks as well as time consuming HF caregiving tasks. Due to difficult and time consuming medical tasks, FCGs may experience role conflict because they cannot complete medical tasks successfully.

Physical care tasks refer to ADL and IADL tasks (Friedman et al., 2008; Schumacher, Beck, & Marren, 2006). HF patients at high levels of functional class, particularly functional class II to IV, have limited ability to care for themselves. This requires many FCGs to spend time providing physical care for their patients (Falk et al., 2009; Scott, Setter-Kline, Britton, 2004). Functional classes II to IV HF patients need more assistance (with both ADL and IADL tasks) from FCGs than patients with functional class I. Physical care for HF patients refers to the FCGs' assistance regarding ADL (eating, bathing, using toilet, helping with mobility) and IADL (doing laundry, transporting patients, preparing meals, shopping, doing housework, managing bills) (Friedman et al., 2008).

Many physical care tasks may not be difficult for FCGs who have experience in caring for HF patients. However, those who changed their role from a family member to an FCG may feel difficulty in providing physical care for an HF patient even when providing care for HF patients with low levels of physical function limitation. Physical tasks of HF patients that include assistance with ADL and IADL can be identified as time consuming tasks that cause role conflict in FCGs.

Emotional care tasks can be defined as the assistance from FCGs when HF patients have emotional problems. Specifically, FCGs should stay with the patients whenever these patients have an emotional problem (Bakas, Lewis, & Parsons, 2001; Oberst, Thomas, Gass, & Ward, 1989). Many studies show that emotional care is often difficult and time consuming (Bakas, Lewis, & Parsons; Bakas et al., 2006; Pressler et al., 2009). FCGs who provide emotional care for HF patients are often at risk for experiencing the emotional distresses of role conflict and role strain. This occurs because these FCGs may have difficulty dealing with the emotional problems of HF patients.

In summary, medical, physical, and emotional care for HF patients is difficult and time consuming (Bakas et al., 2006). Study results show that caregiving tasks for chronically ill patients have influenced multiple levels of caregiver role conflict and role strain (Schumacher, Stewart, Archbold, Caparro, Mutale, & Agrawal, 2008). FCGs provide care for HF patients, which may cause many FCGs to experience emotional distress, including role conflict and role strain.

There are two terms related to role conflict and role strain, including difficult and time consuming tasks. These terms and the relationship with role conflict and role strain will be discussed in the following sections.

Difficult and Time Consuming HF Caregiving Tasks, Role Conflict, and Role Strain

Completing the caregiving tasks for HF patients' medical, physical, emotional, and social needs can be both difficult and time consuming. Difficult HF caregiving tasks such as medical

tasks and emotional tasks cause FCGs to experience conflicts in the caregiving role. They may feel they cannot complete this role, which results in development of role strain (Bernard & Guarnaccia, 2003; Gordon et al., 2011). Time consuming HF caregiving tasks such as physical care and social care may lead FCGs to experience a lack of time and resources to complete role obligations, contributing to role conflict and role strain. FCGs of HF patients frequently deal with emotional care and sodium control, and monitor adverse signs and symptoms of HF (Ellershaw & Ward, 2003; Pressler et al., 2009). FCGs have to prepare appropriate food and control amounts of sodium in the diet of HF patients.

Additionally, HF patients require difficult medication regimens, and must often be administered diuretics and other drugs. Also, HF symptom monitoring is a significant responsibility of FCGs to maintain the health status of HF patients. FCGs may devote their time to completing difficult and time consuming HF caregiving tasks until they have no personal time for themselves to perform other role obligations such as being a spouse, parent, son/daughter, and worker. This problem leads FCGs to develop negative feelings of role conflict (incompatibility of multiple role demands) and role strain (difficulty, confinement and stress).

Role Conflict and Role Strain

In Thailand, FCGs frequently provide care for HF patients at home. These FCGs may occupy other family and social roles such as worker, parent, spouse, and student. These other social role obligations may interfere with the caregiving role because FCGs devote more time to care for HF patients (Hwang et al., 2011). The caregiver role for HF patients requires more obligations than other social roles to maintain HF patients' health. However, FCGs have to complete other social roles such as a work role to earn an income for their families. Many studies have shown that the caregiver role disturbs work roles, which can results in resigning from work

or rescheduling work time (Ahmad & Ngah, 2000; Akintayo, 2010; Allen, Herst, Bruck, & Sutton, 2000; Byron, 2005). FCGs who perform a work role in addition to the caregiving role frequently develop role conflict and role strain because they cannot complete all role obligations (Gordon et al., 2011; Martire & Stephen, 2003).

FCGs often perform the caregiving role along with other social roles such as spouse, parent, daughter/son, relative, neighbor, religious follower, community member, and worker (Leaptrott & Mcdonald, 2011). Each social role has demands that FCGs have to allocate time and manage resources for in order to complete all role obligations. FCGs who try to complete all role demands may experience conflicts and later develop role strain (Gordon et al., 2011). These FCGs may develop role conflict when they cannot complete their caregiver role to the level of their expectation (Edwards, Zarit, Stephens, & Townsend, 2002). FCGs may need to deal with conflicting expectations related to the caregiving role and other social roles from their HF patient relatives and themselves. Specifically, FCGs may experience role conflict and role strain because they cannot complete medical, physical, and emotional care tasks for HF patients in addition to other roles such as work and leisure.

Work role generally requires time and resources from FCGs in order to complete. FCGs with both roles (caregiver and work roles) experience role conflict and role strain because the caregiving role frequently involves work role responsibilities (Allen et al., 2000). Working FCGs often experience role conflict because they face conflicting demands on time and resources from their family and work. Work role conflict can restrict a FCGs' ability to perform both roles effectively because the reduction of time and resources hinders the performance of both roles (Leaptrott & Mcdonald, 2011). Studies of working FCGs show that FCGs frequently reschedule

work time, miss work, or resign from work because they face problems in performing the work role and the caregiving role simultaneously (Akintayo, 2010; Frone, Russell, & Cooper, 1992).

Furthermore, FCGs who occupy both the caregiving role and work role tend to experience role strain because they divide their time between both roles. Some FCGs may need to devote more time for the caregiving role, which results in insufficient time for the work role. Adverse effects of conflicting roles impede FCGs' health, which results in reduced time and energy to take care of themselves. This leads many FCGs to develop role conflict and role strain.

With leisure role, FCGs generally enjoy leisure activities such as attending sport events, taking part in hobbies, going out to a café or bar, and participating in social events with other people. When family members become FCGs of HF patients, they would often like to complete caregiving tasks as they are expected. These FCGs also perform other role obligations. This may often result in FCGs sacrificing leisure activities to complete the caregiving role and other social roles (Bainbridge, Cregan, & Kulik, 2006; Beitman et al., 2004). FCGs may allocate more time to perform the caregiving role than other social roles, which causes many FCGs to have less time for leisure role activities, leading them to develop feelings of role conflict because they cannot complete leisure and other social role demands. Additionally, FCGs have little or no time for leisure activities, which leads them to experience negative emotions such as stress, depression, role conflict, and role strain (Bernard & Guarnaccia, 2003; Elliott & Shewchuk, 2003; Friedman et al., 2008).

In summary, many studies have shown that FCGs who perform caregiving roles in addition to other role obligations may experience role conflict if they cannot complete all role obligations (Atenza, Stephens, & Townesend, 2002; Bainbridge, Cregan, & Kulik, 2006). In other words, completing the caregiving role disturbs other social role obligations and leads FCGs to experience the feeling of role conflict. Additionally, difficult and time consuming role tasks of the caregiver role may cause role conflict and role strain. One may assume that difficult role demands, conflicting role demands, and the lack of time and resources to fulfill all role obligations are causes of role conflict that impact levels of role strain in FCGs of HF patients.

Religious Beliefs

Several studies have shown that belief and practice in religious activities can improve FCG health (Pearce, Singer, & Pringerson, 2006; Strawbridge et al., 2001; Treloar, 2002). Results have shown that FCGs who frequently participate in religious activities report low levels of emotional distresses such as stress, anxiety, depression, role conflict, and role strain. Additionally, religious beliefs motivate FCGs to provide care for HF patients and these FCGs report greater levels of mastery of their role, self-esteem, and self-care while caring for the patient (Murrey-Swank, Lucksted, Medoff, Yang, Wohlheiter, & Dixon, 2006). Religious belief may reduce emotional distress in FCGs who care for chronically ill patients for longs periods of time. Evidence shows that religious belief and participation in religious activity can relieve levels of emotional distress and motivate FCGs to provide care for a chronically ill patient (Murrey-Swang et al.).

The majority of Thai people are Buddhists (Ministry of Interior of Thailand, 2009; Punyasingh, 1981). Buddhism influences Thai people into doing good things for others and into treating others well because of belief in the Karma Rule (Caffrey, 1992; Jullamate, Azeredo, Rosenberg, Pàul, & Subgranon, 2007; Sethabouppha & Kane, 2005). The belief in the Karma Rule influences the behavior and life style of Thai people. Thai people give food to monks, meditate, and help other people because they are motivated by their belief in Buddhism and the idea that doing good things will give them good karma, and good karma will ensure that good things happen to them in return. The belief in the Buddhist Karma Rule is a significant reason that Thai FCGs believe that they need to provide care for a family member who is sick (Jullamate et al.; Sethabouppha & Kane, 2005). Additionally, the belief in the Buddhist Karma Rule may reduce other emotional distress caused by caring for HF patients because FCGs feel happy to be able to do something good by caring for a patient. In the next section, the belief in the Buddhist Karma Rule as a significant factor related to role conflict and role strain will be described.

Belief in the Buddhist Karma Rule

Belief in the Buddhist Karma Rule is the most important influence on the caregiving role in Thai culture (Jullamate et al., 2007). Rural Thai residents, particularly adult and elderly, have more opportunities to participate in religious activities than residents in urban areas because rural residents have lifestyles, values, and cultural beliefs that are close to religion (Laubunjong, Phlainoi, Graisurapong, & Kongsuriyanavin, 2008; Vithayachockitikhun, 2006). The Buddhist Karma Rule states that every cause has an effect, or all actions have results (Yen, Teng, Huang, Ma, Lee, & Tseng, 2010). Thai Buddhists who believe in the Karma Rule feel that if they provide good care for others, they will receive good things in return such as good care from family members or their children, merits, or a good life in the future world. FCGs have the opportunity to do or provide good things by performing a caregiver role. The belief in the Buddhist Karma Rule may moderate levels of role conflict and role strain in FCGs because these FCGs may have more confidence to deal with a caregiving role along with other role obligations. The belief in the Karma Rule nay motivate most Buddhist FCGs to care for HF patients because they would like to receive happiness, merits, and assistance from others in return, leading them to experience low levels of role conflict and role strain.

In summary, studies have shown that the decision of FCGs in Thailand to provide care for chronically ill patients is influenced by the belief in the Buddhist Karma Rule (Jullamate et al., 2007; Subgranon & Lound, 2000). These studies also found that FCGs who believe in the Buddhist Karma Rule report lower levels of emotional distresses such as role conflict, role strain, stress, and burden. The belief in the Buddhist Karma Rule has been included in the proposed study as a possible moderating effect of the relationship between role conflict and role strain.

Research has shown that social support has an impact on levels of role conflict and role strain. In the next section, social support as a significant factor of the relationship between role conflict and role strain will be described.

Social Support

Research results have shown that social support influences the relationship between levels of caregiver role conflict and role strain (Erdwins, Buffardi, Casper, & O'Brien, 2001: Hwang et al., 2011). FCGs who receive social support from families, friends, and neighbors tend to experience low levels of role conflict and role strain. Evidence has shown that perceived social support can reduce or buffer the deleterious effects of caregiver role conflict and role strain (Kramer & Kipnis, 1995; Stephens, Townsend, Martire, & Druley, 2001; Williams, Dilworth-Anderson, & Goodwin, 2003). Support from family members, friends, and others may help many FCGs to have more time to care for themselves and to complete other social roles, which lead many FCGs to relieve their negative feelings that include role conflict and role strain due to caring for HF patients.

In summary, perceived social support may moderate levels of caregiver role conflict and role strain. Rural Thai FCGs may receive more support from family, friends, neighbors, and other significant people because of the rural Thai life style that involves having a close

relationship with the community. Rural Thai FCGs may experience low levels of role conflict and role strain because they have enough support to care for HF patients.

Rural

Thailand is divided into 87 provinces. Most provinces have one significant city called an "Amphore Moeng," which is the capital. Each province contains about two to 12 districts, including the capital. A *rural area*, in Thailand, refers to an area located outside of the local government division of municipality of each province (Kaothien & Webster, 1998; The Royal Institute Thailand, 2009). The density of population in a rural area is not more than 10,000. The majority of occupation in rural areas is related to agriculture.

In the U.S., rural areas are frequently classified based on the density of population, agriculture/farm areas, and geographic areas (Hall, Kaufman, & Ricketts, 2006). In the same way, rural areas in Thailand have been classified by the areas outside of local government division of municipality, population density, and occupation of residents (Kaothien & Webster, 1998). Rural Thai FCGs frequently have less access to specialty, and service from tertiary hospital (Dedkhard, 2011). Eastern Thailand includes seven provinces and each province consists of about three to ten districts. There is one central district, which is the capital in each province. The central district is called "Amphore Moeng" and is identified as an urban area in each province. Other districts in the province are identified as rural areas.

Rural Thai FCGs generally live far away from health care settings. There are few health care settings in rural areas and these setting provide primary and secondary care for residents. Many FCGs in rural areas may experience negative effects from providing care for HF patients. For example, rural Thai FCGs have to deal with HF symptoms when HF patients develop undesirable symptoms such as shortness of breath and chest pain. These FCGs may be

inconvenienced by the need to take HF patients to the tertiary hospital (Jenghua & Jedsadayanmata, 2011), particularly when late at night. This may cause rural FCGs to experience more emotional distress than urban FCGs. Many FCGs in rural Thailand may lack resources, information, facilities, and medical support (Dedkhard, 2011) to care for HF patients and this may lead them to experience role conflict and role strain. Therefore, FCGs of HF patients who live in rural areas of eastern Thailand were included in this study.

Significance of Study

Studies in the U.S. show that FCGs who perform multiple roles tend to experience healthaffecting role conflict and role strain (Bernard & Guarnaccia, 2003; Schumacher et al., 2008). Role strain studies in the U.S. were conducted in chronically ill patients such as cancer, stroke, and dementia patients. Studies have shown that role conflict may be caused by completing a specific role obligation such as a caregiving role along with other family and social role obligations such as worker, spouse, and parent (Archbold et al., 1990; Schmacher et al., 2008). Carrying out a caregiver role may disturb the completion of other family and social role obligations. Role strain associated with role conflict results from subjective experiences or responses felt by the individual because of their inability to meet many expected behaviors associated with their role obligations (Hecht, 2001; Schumacher et al., 2008).

However, there is a lack of studies conducted on role conflict and role strain in HF patients both in the U.S. and Thailand. Like other chronically ill patients, HF patients with functional class II to IV require advanced treatment and care from FCGs (Pressler et al., 2009). These care tasks lead FCGs to experience negative effects because of providing difficult and time consuming care for HF patients (Pressler et al., 2009).

In Thailand, research studies examining levels of FCG role conflict and role strain in rural areas is limited. This may affect care for FCG who experience role conflict and role strain. Thai literature focuses on levels of caregiver role strain in FCGs who care for cardiovascular or stroke patients (Churoeck, 2005; Matayamool, 2003; Prawtaku, 2006). Study results support that FCGs of chronically ill patients in Thailand may be at risk for role conflict and role strain from performing multiple role obligations. These results suggest that FCGs who complete care tasks for chronically ill patients for long periods may develop high levels of role conflict and role strain.

The significant predictors of FCGs and HF patients in rural Thailand that influence levels of caregiver role conflict and role strain are seldom studied. Research in western countries and Thailand showed that religious beliefs can reduce emotional distresses in FCGs of chronically ill patients (Caffrey, 1992; Greenfield & Mark, 2007; Jullamate et al., 2007; Wallhagen & Yamamoto-Mitani, 2006). FCGs who have more involvement in religious activities may be better able to deal with emotional distress from providing care for an HF patient. More specifically, though belief in the Buddhist Karma Rule and social support may serve as possible moderating factors that reduce the levels of role conflict and role strain: a knowledge gap still remains concerning the relationships between FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, Buddhist beliefs, and social support on levels of role conflict and role strain in FCGs of HF patients in Thailand.

In summary, the findings of this proposed study will be important because the Principal Investigator (PI) will systematically test for significant influences on caregiver role conflict and role strain in rural-based FCGs. The findings of the proposed study will increase the current understanding of role conflict and role strain for HF patients, FCGs, families, and nurses. This can help FCGs and nurses to identify strategies for moderating the levels of caregiver role conflict and role strain. The results of this study provide implications to nurses and researchers to conduct future research about role conflict and role strain in FCGs of other chronically ill patients. Additionally, this study will have significant implications for developing innovative intervention programs to relieve role conflict and role strain for FCGs. Findings on the significant influences of role conflict and role strain can be used to develop evidence-based caregiver screening programs for FCGs of chronically ill patients. These programs will enable nurse clinicians to identify FCGs who are at greater risk for problematic levels of role conflict and role strain, which will help nurses to better understand caregiver role conflict and role strain in FCGs of chronically ill patients.

Specific Aims

The specific aims of this study were to: 1) Determine the relationship of rural Thai FCGs and HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support with caregiver role conflict and role strain; 2) Examine the impact of difficult and time consuming HF caregiving tasks on caregiver role conflict; and 3) Test how belief in the Buddhist Karma Rule and social support may serve as possible moderating influences on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks.

Significant FCG and HF Patient Factors of Role Conflict and Role Strain

As identified in specific aims, the antecedents of role conflict and role strain that affect difficult and time consuming HF caregiving tasks include FCG and HF patient characteristics. FCGs' characteristics such as age, gender, education, relationship to patient, employment status,

household income, number of roles, number of hours of care, and physical function; and HF patient characteristics such as age, gender, and education.

FCG Characteristics

Regarding age, older FCGs experience higher levels of caregiver role conflict and role strain than younger FCGs (Mui & Morrow-Howell, 1993; Pinquart & Sörensen, 2003; Schulz et al., 1995; Vitaliano, Scanlan, & Zhang, 2003). With gender, much evidence shows that female FCGs tend to report higher negative feelings due to caring for chronically ill patients than male FCGs (Lyons, Stewart, Archbold, & Carter, 2010). With respect to education, less-educated FCGs report higher levels of caregiver role conflict and role strain than better educated FCGs (Scharlach, Li, & Dalvi, 2006; Wang, Shyu, Chen, & Yang, 2010).

In terms of number of roles, FCGs who perform a caregiving role in addition to other social roles experience a lack of time and resources to complete all roles (Archbold et al., 1990; Elliott, 2003; Hetch, 2001). For the relationship to patient factor, earlier studies in western countries have shown that spousal FCGs may experience more role conflict, role strain, and other negative emotions than other groups of FCGs (Cantor, 1983; Geoge & Gwyther, 1986; Rohrbaugh, Cranford, Shoham, Nicklas, Sonnega, & Coyne, 2002). Regarding employment status, unemployed FCGs are more likely to experience role conflict and role strain than those who are employed (Aneshensel, 1992; Edwards et al., 2002).

For household income, FCGs who experience financial problems tend to experience negative emotions such as role conflict, role strain, and depressive symptoms (Beitman et al., 2004; Vilhjalmsson & Jansdottir, 2006). The number of hours of care is a strong predictor of FCGs' emotional distress and other negative outcomes (Wang et al., 2010). For physical function, some research has suggested that FCGs with poor physical function tend to experience increased role conflict, role strain, and other negative emotions (England, 2000; Schumacher et al., 2008).

HF Patient Characteristics

In this study, HF patient characteristics included age, gender, and education. For patient age, older HF patients report higher levels of dependence (Albert et al., 2010), which may lead FCGs to experience emotional distress including role conflict and role strain. Regarding patient gender, female HF patients report higher physical and emotional problems than male patients (Rohrbaugh et al., 2002). FCGs may develop higher role conflict and role strain when they provide emotional support for female HF patients. Additionally, patients' varying education levels may influence levels of caregiver role conflict and role strain (Barbareschi, Sanderman, Leegte, Veldhuisen, & Jaarsma, 2011; Wang et al., 2010). This may result from that well-educated HF patients may have more information, support, and resources to meet their caregiving task demands than less-educated patients.

Summary

The purpose of this chapter was to describe the problem, significance, purposes, and specific aims of the study. FCGs often complete difficult and time consuming HF caregiving tasks for HF patients that include medical, physical, and emotional care tasks. These tasks are often difficult and time consuming, which can cause caregiver role conflict and role strain. Caregiver role conflict and role strain influence FCGs' physical and mental health. Research provides evidence of significant factors of caregiver role conflict and role strain that impact FCGs' health and indirectly impact HF patient health. Therefore, this further investigation of significant factors of caregiver role conflict and role strain is an important key step in developing supportive interventions for relieving role conflict and role strain in FCGs.

Chapter 2

Conceptual Framework

Literature has shown that completing difficult and time consuming caregiving tasks may lead FCGs to experience role conflict and role strain, which affects their physical and emotional health status (Bainbridge, Cregan, & Kulik, 2006; Bakas et al., 2006; Beitman et al., 2004; Hanson, Archbold, & Stewart, 2004; Chen, 2008). The purpose of this chapter is to present the conceptual model for this study. FCG and HF characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, social support, role conflict, and role strain will be defined. A discussion on adaptation of role strain models will be provided with a focus on role conflict and role strain, particularly antecedent factors of role conflict and role strain. Next, the conceptual model and the proposed relationships among its components will be presented and discussed. This chapter concludes with a summary of how significant factors and difficult and time consuming HF caregiving tasks influence role conflict and role strain.

Conceptual Framework

The Role Strain Theory developed by Goode (1960) was used as the fundamental theory for this study. Literature has shown that role conflict and role strain in FCGs can be influenced by FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support (Bakas et al., 2006; Erdwins et al., 2001; Goode, 1960; Stephens et al., 2001; Williams, Dilworth-Anderson, & Goodwin, 2003). The Role Strain Theory focuses on sources of role conflict and role strain, negative impacts of performing multiple roles, and strategies to reduce role conflict and role strain. Additionally, the relationship among antecedents, role conflict, and role strain are identified (Goode, 1960).
Role strain is conceptually defined as "a felt difficulty in meeting multiple role obligations" (Goode, 1960, p. 483). More specifically, role strain is the perception that the overall caregiving situation is stressful, resulting from role conflict (Archbold et al., 1990). *Role conflict* is identified as incompatibility between varied role demands (Rizo, House, & Lirtzman, 1970; Seib & Muller, 1999). Role conflict occurs when there is an incompatibility of pressures within different demands of caregiver, work, social, and family roles (Archbold et al., 1990; Beitman et al., 2004; Bernard & Guarnaccia, 2003; Yang et al., 2008). FCGs complete multiple roles and they cannot complete all role obligations. As a result, these FCGs cannot fulfill their role expectations, and may eventually develop role conflict and role strain (Halpern, 2005).

Based on the Role Strain Theory, role conflict is related to role strain. FCGs who perform a caregiver role may experience conflict due to difficult and time consuming HF caregiving tasks that disturb other family and social role obligations. FCGs who report high levels of role conflict tend to experience high levels of role strain because they feel their role responsibilities are stressful and they cannot deal with their roles (England, 2000; Elliott & Shewchuk, 2003; Gordon et al., 2011). FCGs develop a sense of difficulty in fulfilling role obligations, which is role strain.

Role strain affects physical health and emotional health of individuals. FCGs tend to experience negative effects of role strain that include feelings of stress, loss of appetite, exhaustion, shortness of breath, heart palpitation, dizziness, headaches, and back pain (Houghs & Galinsky, 1994; Beitman, et al., 2004; Ward, 1986). Goode (1960) suggested that role strain can be reduced by eliminating troublesome roles, or receiving more resources and support to meet perceived role obligations. Specifically, dealing with role conflict caused by difficult and high role demands will be one solution to relieve feelings of role strain.

Research has shown the correlation between role conflict and role strain (Allen et al., 2000; Barnett & Hyde, 2001; Gordon et al., 2011). Studies have shown that individuals may experience role strain, caused by role conflict (Archbold et al., 1990; Gordon et al., 2011). These study results show that FCGs who work full-time caring for family members such as children, elderly and disabled relatives tend to experience role conflict because they face problems in completing a caregiving role and work role. The feeling of role conflict leads FCGs to experience role strain.

Earlier studies have examined the relationship between role conflict and role strain (Barnett & Hyde, 2001; Gordon et al., 2011; Greenhaus & Powel, 2006). Findings show that individuals who perform the caregiver role in addition to other roles tend to develop role conflict, which results in emotional distress such as stress and strain. For example, MacEvan & Barling (1991) found that women who worked outside and cared for young children experienced high levels of role conflict that related to role strain. Additionally, Gordon and colleagues found that role strain is influenced by role conflict due to performing multiple roles such as caregiver, and work roles. Based on these study results, role conflict is frequently related to role strain, indicating that role conflict may lead FCGs to experience role strain. In other words, FCGs who experience the feeling of role conflict may face difficulties in performing a caregiver role, resulting in a sense of role strain (Archbold et al., 1990; Beitman et al., 2004; Gordon et al.).

In this study, role conflict was included in the modified conceptual model because the impact of difficult and time consuming HF caregiving tasks strongly disturbs other role obligations. FCGs experience role conflict because difficult and time consuming HF caregiving tasks hinder the completion of other roles. FCGs who experience role conflict tend to experience role strain because they find that their caregiving role can lead them to experience feelings of

difficulty, confinement, and stress when completing the role (Gordon et al., 2011; MacEvan & Barling, 1991). Literature has shown that FCGs experience negative effects due to conflict in completing role demands and performing multiple roles. Role conflict occurs when individuals who are engaged in multiple roles cannot meet all role obligations because of the lack of time and resources, resulting in developing the feeling of role strain. Additionally, significant antecedents of role conflict and role strain will be discussed in the following paragraph.

The sources of role conflict that influence role strain are described in the Role Strain Theory (Goode, 1960). Goode (1960) classified sources of role conflict and role strain that can be identified as antecedents of these two negative feelings. Sources of role conflict and role strain include multiple role performance with incompatible role demands, lack of time and resources, complex relationships of role sets, and high role demands in each role. In particular, major sources of role strain are comprised of high role demands, difficulty of roles, number of roles, and lack of resources to complete roles. In other words, individuals experience role conflict and role strain because they cannot fulfill their role obligations due to the lack of resources, high number of roles, difficult role tasks, or disagreements with norms and expectations within roles (Goode, 1960). Sources of role conflict and role strain are often influenced by antecedents of individual and social characteristics.

Antecedents of role conflict and role strain in the Role Strain Theory include individual and social environment, social characteristics, and individual characteristics (Goode, 1960). These factors can have either positive or negative impacts on role conflict and role strain. Individual and social characteristics affect levels of role conflict as described in the Role Strain Theory (Goode, 1960). Each society has different influences on individuals that perform caregiving and social roles and different levels of role conflict that lead individuals to experience role strain.

Role conflicts lead to role strain because FCGs have conflicts between their caregiving and other roles. They cannot deal with role demands, which leads them to experience feelings of role conflict. FCGs with high levels of role conflict tend to experience role strain because they face difficulties completing a caregiver role (Archbold et al., 1990; Goode, 1960). FCGs perceive role strain in completing a caregiver role resulting in experiencing role conflict. Specifically, role conflict is related to role strain because role conflict leads FCGs to experience role strain (Mui, 1995). FCGs who develop role conflict tend to experience more role strain than FCGs who do not, because FCGs with role conflict cannot perform their multiple roles.

This study examined the significant factors of role conflict and role strain in FCGs of HF patients. FCGs perform the caregiving role along with other social roles. One may assume that FCGs deal with a number of roles that may lead them to experience role conflict and role strain. FCGs are generally required to provide care for HF patients. HF patients face physical, emotional, and social health problems due to developing HF disease (Dracup et al., 2008; Reigel & Moser, 2008). These patients require medical, physical, and emotional care from FCGs. Studies show that medical, emotional, and physical care for HF patients can involve difficult and time consuming HF caregiving tasks that frequently lead FCGs to experience emotional distress and negative outcomes such as role conflict and role strain (Bakas et al., 2006; Pressler et al., 2009). FCGs may need to devote more time to caring for HF patients, which leads them to have insufficient time to complete other roles.

Difficult and time consuming HF caregiving tasks are considered to be significant sources of role strain. Research has shown that performing difficult and time consuming HF

caregiving tasks is a potential factor that affects levels of emotional distress (Bakas et al., 2006; Pressler et al., 2009) that includes caregiver role conflict and role strain. Therefore, significant sources of role conflict and role strain that consist of number of roles and difficult and time consuming HF caregiving tasks that include medical, physical, and emotional care tasks were included in the modified model in this study (Bakas et al.; Bernard & Guarnaccia, 2003; Boyd Murray, Kendall, Worth, Benton, & Clausen, 2004; Pressler et al.; Schumacher et al., 2008).

In this study, the antecedents of role conflict and role strain were comprised of individual characteristics (FCG/HF patient characteristics, number of roles, etc.), difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, and social support. These factors were incorporated in the modified conceptual model. With regard to individual characteristics, a number of individual characteristics such as age, gender, and education have been identified as potentially significant factors that affect levels of role conflict through specific role demands. Individual characteristics include sociodemographic and socioeconomic factors such as age, gender, education, and household income. Social characteristics such as social class, values, and beliefs are defined as important antecedents of role conflict and role strain in the Role Strain Theory. The belief in the Buddhist Karma Rule and social support was included in the modified model because these two factors are social characteristics that have been shown to have significant effects on role conflict and role strain (Anneshensel, 1992; Erdwins et al., 2001; Kramer & Kipnis, 1995).



Figure 1. Role strain model of rural Thai family caregivers of HF patients. Adapted from "A Theory of Role Strain," by William J Goode, 1960, *American Sociological Review*, 25, 483-496. Copyright by American Sociological Association.

For social characteristics, in this study the belief in the Buddhist Karma Rule and social support were examined for their impact on the relationship between role conflict and role strain. Other social characteristics such as social class, culture, values, and other social environments that are described in the Role Strain Theory were excluded.

In Thailand, approximately 95% of Thai people are followers of Buddhism (Punyasingh, 1981). Buddhist followers believe in the Karma Rule. They do good things because they would like to receive happiness and good things in their future lives. The belief in the Buddhist Karma Rule may contribute to Buddhist FCGs completing a caregiving role and other role obligations with low experiencing emotional distress (Jullamate, et al., 2007; Yen et al., 2010). FCGs who believe in the Buddhist Karma Rule may feel required to complete their multiple role obligations, leading FCGs to experience low levels of emotional distress (Murrey-Swank et al., 2006). The belief in the Buddhist Karma Rule was included in the modified conceptual model as a potential moderation factor that may reduce the relationship between role conflict and role strain.

Social support from family, friends, and other significant people aid FCGs in completing their roles. Social support is a significant factor that influences the relationship between role conflict and role strain. Evidence shows that social support has a positive impact on the physical and mental health of FCGs (Anneshensel, 1992; Erdwins et al., 2001; House & Rizzo, 1972; Hwang et al., 2011). Social support refers to the perception of available support when FCGs are in need of help (Zimet, Dahlem, Zimet, & Farley, 1988).

Studies have found that social support levels can affect levels of emotional distress such as stress, depression, burden, and anxiety (Cox & Monk, 1996; Hwang et al., 2011; Kramer & Kipnis, 1995). Perceived social support may reduce levels of role conflict and role strain in

FCGs (Jawahar, Stone, & Kisamore, 2007). FCGs who receive more support can deal with their role obligations because they have more time and resources to complete their roles (Cox & Monk, 1996; Hwang, et al., 2011; Mui, 1995; Williams, Dilworth-Anderson, & Goodwin, 2003). Social support helps FCGs deal with problematic roles. In other words, Perceived social support influences the relationship between role conflict and role strain. Specifically, interaction affects role conflict, and social support moderates levels of role strain. Therefore, social support was included in the modified model for this study.

For the purpose of this study, FCG characteristics included age, gender, education, relationship to patient, employment status, household income, number of roles, number of hours of care, and physical function. HF patient characteristics included age, gender, and education. FCG and patient characteristics may affect levels of role conflict and role strain. These individual FCG and HF patient characteristics were included in the modified conceptual model.

The modified conceptual model, the *Role Strain Model of Rural Thai Family Caregivers of HF Patients*, based on the Role Strain Theory (see Figure 1), was used to guide this study. Significant components in the modified model of this study included antecedents (FCG and HF characteristics, and Social support), difficult and time consuming HF caregiving tasks, role conflict, and role strain. These components will be defined in the following section.

FCG Role Strain

Outcomes for FCGs caring for HF patients in the modified conceptual framework were caregiver role conflict and role strain. Role strain may be influenced by role conflict resulting from the number of roles FCGs occupy and the level of role demands (Maclean, Glynn, & Ansara, 2004). Role strain related to conflict exists when strain in one role affects performance in another due to incompatibility between roles. According to previous studies, there are

consistent findings that FCGs performing multiple roles tend to experience role conflict and role strain (Archbold et al., 1990; Maclean, Glynn, & Ansara).

Number of roles, extent of role demand, difficulty of role demand, and lack of resources are significant factors that contribute to FCGs experiencing role conflict and role strain. FCGs of HF patients perform multiple roles such as spouse, parent, son/daughter, and worker. These roles require additional obligations that FCGs must complete. Evidence shows that role conflict and role strain are related (Gordon et al., 2011). FCGs feel conflict in performing the caregiving role, which may lead them to develop role strain because of the stress of being an FCG. One may assume that FCGs who perform the caregiving role along with many social roles experience role conflict and role strain when they cannot complete all role demands.

In summary, in this study role strain refers to the subjective experience of FCGs who feel pressure to meet stressful caregiving role obligations. This role includes stress, confinement, and difficulty due to the lack of time and resources to complete role obligations. Literature supports that FCGs who perform multiple roles tend to experience role conflict and role strain if they cannot balance their roles (Kim et al., 2006). Many FCGs find it difficult to meet the demands of multiple roles.

FCG Role Conflict

FCGs may experience role conflict, which is defined as incompatibility between varied role demands. Role conflict is caused by performing the caregiving role in addition to other social roles. Regarding multiple role obligations, role conflict may occur when role demand expectations between two or more roles results in conflict between the roles. Particularly, role conflict refers to the incompatibility of the caregiving role and other family and social demands (Rizo, House, & Lirtzman, 1970). FCGs deal with caregiving role demands that can often disturb their ability to handle other social roles such as worker, parent, or spouse. Specifically, role conflict occurs when participation in a role produces strain that hampers role performance in other roles (Seib & Muller, 1999; Stephens et al., 2001). FCGs may not have enough time to complete other social roles due to developing role conflict. This may lead FCGs to experience the feeling of role strain (difficulty, stress and confinement) (Edwards et al., 2002; Martire & Stephen, 2003).

In summary, role conflict can be conceptually defined as incompatibility between varied role demands. Role conflict is the feeling of difficulty to fulfill role obligations due to incompatibility of pressures within different demands of caregiver, worker, and social roles. FCGs of HF patients experience role conflict, which leads them to develop role strain.

Difficult and Time Consuming HF Caregiving Tasks

HF patients frequently develop severe symptoms that undermine their physical, emotional, and social health. HF patients frequently require FCGs to deal with difficult and time consuming medical, physical, and emotional care tasks. *Difficult HF caregiving tasks* can be conceptually defined as the FCGs subjective experience regarding care tasks that require experience and skill to complete (Bakas et al., 2001; 2002; 2006). FCGs may have a difficult time handling care because they may lack skills and experience. This leads many FCGs to develop role conflict and other emotional distresses (Goode, 1960; Bakas et al.; Hwang et al., 2011). Additionally, FCGs may experience role conflict due to performing the caregiving role. This role may disturb the completion of other social role obligations (Edwards et al., 2002; Martire & Stephen, 2003).

In this study, *time consuming HF caregiving tasks* refers to the subjective experience of FCGs that perform care tasks that require more time to complete (Bakas et al., 2006). Medical,

physical, and emotional care tasks for HF patients may interrupt the completion of other social roles. HF caregiving tasks often require time and resources to complete (Bakas et al., 2006). If FCGs do not have enough time and resources to complete care tasks, they may experience role conflict and role strain. Study results show that physical care such as transportation, housework, and financial management can be time consuming (Bakas et al., 2001; 2006). FCGs assisting HF patients with physical care may experience role conflict because they devote more time to completing caregiving tasks than to other roles. More specifically, performing a caregiving role may interfere with other role obligations, leading FCGs to experience role conflict and role strain.

HF caregiving tasks are defined as the assistance needed by patients with difficult and time consuming medical, physical, and emotional care tasks (Dracup et al., 2004; Friedman et al., 2008; Pressler et al., 2009; Riegel et al., 2009). In this study, medical, physical, and emotional care tasks needed by HF patients were further evaluated.

Medical Care Tasks

Common symptoms of HF include increased body weight, ankle and feet edema, swelling of the abdomen, fluid depletion, fatigue, faintness, dyspnea, irregular pulse, difficulty sleeping, and loss of appetite (Coelho et al., 2005; Laramee, Levinsky, Sargent, Ross, & Callas, 2003; Riegel, Carlson, Moser, Sebera, Hicks, & Roland , 2004). FCGs of HF patients have to deal with these symptoms, which may lead them to experience role conflict and role strain. *Medical care tasks* can be defined as the assistance provided to HF patients with clinical symptoms and includes medication administration, sodium control, and symptom monitoring. HF patients often need assistance from family members to help them deal with HF symptoms, administer medications, control fluids and sodium, and monitor side effects of medications (Dracup et al.,

2003; Reigel & Dickson, 2008). Evidence shows that medical tasks required by HF patients are difficult and time consuming (Bakas et al., 2006; Pressler et al., 2009). Medical tasks are difficult and may lead less-experienced FCGs to experience role conflict. These FCGs may spend more time completing difficult HF caregiving tasks until they cannot complete their other roles as expected, leading them to develop a sense of role strain

Physical Care Tasks

In this study, *physical care tasks* for HF patients was defined as the assistance from FCGs in regard to ADL (eating, bathing, using toilet, helping with mobility) and IADL (doing laundry, transporting patients, preparing meals, shopping, doing housework) services (Friedman et al., 2008; Saunders, 2008; Schumacher, Beck, & Marren, 2006). Some physical care of HF patients may be difficult and time consuming, which leads FCGs to develop role conflict caused by incompatibility among multiple role demands. FCGs may spend their time completing difficult physical care tasks for HF patients, which leads them to have insufficient time to complete other roles. Role conflict leads many FCGs to experience role strain because they feel stress when performing the caregiver role along with other roles (Edwards et al. 2002).

Emotional Care Tasks

HF patients experience emotional problems due to their severe symptoms and physical limitations (Dracup et al., 2004; Albert et al., 2010). HF patients are often concerned by severe symptoms and the uncertainty of their future lives, which results in depression, sadness, anxiety, and hopelessness (Friedman et al., 2008; Scott, Setter-Kline, Britton, 2004). FCGs frequently help HF patients to deal with emotional problems, which may lead FCGs to experience role conflict and role strain (Bakas & Bungerner; 2002; Bakas et al., 2006). In this study, *emotional care tasks* was defined as the assistance from FCGs to relieve the stress, anxiety, and worries of

HF patients. When HF patients experience emotional distress, FCGs provide emotional support including listening, empathizing, and talking through problems. Additionally, FCGs may facilitate relief of HF patient emotional distress by helping them to meditate or pray. Research has shown that emotional support is often the most difficult task of FCGs and that it can lead FCGs to experience negative effects of caregiving (Bakas et al., 2001; Pressler et al., 2009).

FCGs manage various health problems of HF patients, which may lead FCGs to experience emotional distress that hinders their ability to care for patients. Studies show that HF patients reported more medical, emotional, and physical problems than patients of other chronic diseases (Boyd et al., 2004; Dracup et al., 2004; Reigel et al., 2009). Many studies revealed that HF patients frequently experienced uncontrolled symptoms, emotional distress, and poor quality of life (Boyd et al., 2004; Juenger, Schellberg, Kraemer, Haunstetter, Zugck, Herzog, & Haass, 2002). These patients also had little understanding of their illness and its prognosis. Because of problems related to HF, patients frequently require medical, emotional, and physical care from FCGs. Studies show that dealing with HF patient care tasks can lead FCGs to develop emotional distress in the form of depression, anxiety, stress, or role strain (Biegel & Schulz, 2003; Molloy, Johnston, & Witham, 2005). Results show that FCGs who cannot deal with the medical and physical care tasks report high levels of emotional distress because they face problems completing caregiving tasks (Bakas et al, 2006.).

To sum up, FCGs who perform a caregiving role in addition to other roles are at risk of experiencing role conflict and role strain if they cannot balance their role obligations (Gordon et al., 2011). Carrying out the caregiver role is often a difficult and time consuming task that disturbs the completion of other family and social roles. Multiple role obligations and difficult and time consuming HF caregiving tasks have an impact on caregiver role conflict, which leads

to role strain. However, some evidence shows that social support can affect levels of emotional distress, such as role conflict and burnout (Jawahar, Stone, & Kisamore, 2007). Social support may moderate the relationship between caregiver role conflict and role strain. The following section will discuss the impact of the belief in the Buddhist Karma Rule on the relationship between role conflict and role strain.

Religious Beliefs

Current scientific studies have shown that religious beliefs and attendance in religious activities can improve both patient and FCG health (Pearce, Singer, & Pringerson, 2006; Strawbridge et al., 2001). The results showed that FCGs who had greater levels of involvement in religious activities reported low levels of emotional distress and increased levels of mastery of their caregiver role, self-esteem, and self-care (Murrey-Swank et al., 2006). Additionally, FCGs can utilize religious beliefs as caregiving resources in coping with caregiving situations (Strawbridge et al., 2002; Wallhagen & Yamamoto-Mitani, 2006). In other words, religious beliefs can be significant factors that can affect levels of role conflict and role strain. In this study the main religious belief is the belief in the Buddhist Karma Rule and may influence levels of emotional distress in FCGs who care for an HF patient.

One Thai study that was conducted among FCGs of the elderly in northeast Thailand found that rural FCGs report greater levels of religious involvement (Caffrey, 1992). FCGs with greater levels of religious involvement may deal with the emotional distress that comes from caring for the elderly. Belief in Buddhism, particularly the belief in the Karma Rule, helps FCGs to deal with their caregiving responsibilities. The following paragraph will discuss the belief in the Buddhist Karma Rule, which may moderate the relationship between role conflict and role strain.

Belief in the Buddhist Karma Rule

In Thailand, the belief in the Buddhist Karma Rule is a significant factor motivating most FCGs to provide care for sick family members (Jullamate et al., 2007; Sethabouppha & Kane, 2005; Subgranon & Lund, 2000; Caffrey, 1992). Thai Buddhists believe that if they provide good care for others, they will receive good things in return such as good care from family members or their children, or a good life in the next world. In this study, *belief in the Buddhist* Karma Rule was conceptually defined as the intensity of FCGs' belief in the philosophical concept of every action having a result (cause and effect) (Caffrey, 1992; Wallhagen & Yamamoto-Mitani, 2006; Yen, Teng, Huang, Ma, Lee, & Tseng, 2010). The concept of cause and effect states that every cause has an effect, or that all actions have results (Hsu & Shyu, 2003). In other words, if FCGs provide good care for an HF patient, they will receive the same care from their family members when they are older or sick, or receive good things in return. The belief in the Buddhist Karma Rule may moderate levels of role conflict and role strain in FCGs because they have the opportunity to do good things in their lives. The belief in the Karma Rule may help Buddhist FCGs to deal with their role conflict and role strain from caring for HF patients with functional class II to IV.

Social Support

Social support can be a significant factor that may reduce levels of emotional distresses (Cox & Monk, 1996; Hwang et al., 2011; Kramer & Kipnis, 1995) that include caregiver role conflict and role strain. FCGs who receive social support may have more time to care for themselves, or to deal with other social roles. *Social support* was defined in this study as the assistance from family members, friends, and other significant people to care for HF patients. Specifically, FCGs who receive resources and support from family members, friends, and other

significant persons to deal with their caregiving roles have enough time to complete other social roles. Individuals provide the support to others in accordance with their values influenced by religion, culture, and social characteristics (Goode, 1960; Caffrey, 1992).

To conclude, social support was identified in this study as a resource for the caregiving role. FCGs may utilize support from family, friends, and other significant persons in completing difficult and time consuming HF caregiving tasks, which may moderate the level of role conflict and role strain. In this study, social support was included in the modified model as a moderating factor that influences the relationship between role conflict and role strain.

FCG Characteristics

FCG and HF patient characteristics were both defined as antecedents of role conflict and role strain (Goode, 1960). For the purpose of this study, *FCG characteristics* were considered to be sociodemographic and socioeconomic variables including FCG age, gender, education, household income, employment status, number of roles, number of hours of care, and physical function. These significant FCG factors may be associated with difficult and time consuming HF caregiving tasks, resulting in role conflict and role strain. Each of these FCG characteristics may have a positive or negative effect on the level of role conflict (Maclean, Glynn, & Ansara, 2004; Williams, Dilworth-Anderson, & Goodwin, 2003). Specifically, these individual factors may influence difficult and time consuming HF caregiving tasks, resulting in role conflict and role strain.

Regarding gender, female FCGs tend to experience more role conflict and role strain than male FCGs (Elliott & Shewchuk, 2003; Lyons et al., 2010). One study found that female FCGs report higher levels of physical and emotional distress than male FCGs (Yee & Schulz, 2000).

FCG gender was included in this study for further investigation because of its impact on role conflict and role strain.

For FCG age, older FCGs tend to report high levels of role conflict and role strain (Mui & Morrow-Howell, 1993). One study revealed that the oldest group of FCGs who were responsible for elderly relatives reported high levels of caregiver role conflict and role strain (Mui & Marrow-Howell). The results showed that older FCGs who care for elderly relatives tended to experience greater role overload and role conflict.

With regard to FCG education, studies have shown that FCGs who are less educated report more negative feelings than well-educated FCGs (Scharlach, Li, & Dalvi, 2006; Wang et al., 2010). Well-educated FCGs may have more resources and support to deal with difficult and time consuming HF caregiving tasks than less-educated FCGs. This may lead well-educated FCGs to experience low levels of role conflict and role strain.

In terms of the number of roles, FCGs who perform multiple roles are hypothesized to develop role strain if they cannot fulfill all role obligations (Archbold et al., 1990; Elliott, 2003; Hetch, 2001). FCGs who perform multiple roles may devote their time to caring for HF patients, leading many FCGs to lack time to care for themselves or complete other social role obligations. The roles of FCGs may include caregiver, spouse, son/daughter, brother/sister, parent, friend, neighbor, worker, and grandfather/grandmother.

For number of hours of care, studies found that FCGs who spend long hours caring for chronically ill patients tend to report high emotional distress and negative outcomes (Bakas & Burgener, 2002; Wang et al., 2010). FCGs who take care of patients for longer hours may face a lack of time to complete other social roles such as work roles, leisure roles, and family roles,

which leads them to develop role conflict and role strain (Bakas & Burgener; Seib & Muller, 1999).

With respect to employment status, there have been inconsistent study results regarding levels of role conflict and role strain in employed and unemployed FCGs (Edward et al., 2001; Leaptrott & Mcdonald, 2011; Maclean, Glynn, & Ansara, 2004; Perrone et al., 2005). Study results reported that employed FCGs experience higher levels of role conflict and role strain than unemployed FCGs because FCGs cannot complete caregiver and work role obligations. FCG employment status and the effect of a caregiver role on work role were included in this study to further examine their relationship with role conflict and role strain.

FCG physical function was hypothesized to have an impact on caregiving tasks, resulting in role conflict and role strain. Due to poor physical function, some FCGs have limited abilities to assist HF patients with physical and medical care, leading them to develop emotional distress such as role conflict and role strain (Chung, Pressler, Dunbar, Lennie, & Moser, 2010).

Rural

In this study, a *rural area* can be defined as an area located outside of the local government of municipal division (Kaothien & Webster, 1998; The Royal Institute Thailand, 2009). Rural areas have less density of population than urban areas and the major occupation is agriculture. In rural areas of Thailand, residents live far away from the tertiary health care setting so they have limited access to specialty care and treatment. FCGs may have to deal with symptoms of HF patients when these patients experience worsening symptoms. It is difficult for FCGs to take HF patients to a tertiary hospital. This may lead FCGs of HF patients to experience emotional distress from caring for HF patients. FCGs may have to deal with severe symptoms for

HF patients because they may have delayed access to the tertiary care hospital due to long distance.

Rural Thai residents have close relationships with family and community (Dedkhard, 2011). Thai FCGs who live in rural areas may have more involvement in religious activities, which may help many to deal with emotional distress caused by performing a caregiver role and other family and social roles. Rural Thai FCGs frequently have less access to public facilities, information, and medical support due to living in remote areas (Dedkhard, 2011). FCGs in rural areas may experience role conflict and role strain while caring for HF patients due to lack of resources and medical support. In this study, all participants included FCGs who lived in rural areas of eastern Thailand. These FCGs may experience role conflict and role strain because of dealing with HF caregiving tasks.

HF Patient Characteristics

Significant factors of HF patients include age, gender, and education that may have an impact on caregiving tasks. Specifically, difficult and time consuming HF caregiving tasks affect the extent of care that FCGs have to provide to HF patients.

Older patients may develop more physical disabilities than younger HF patients (Albert et al., 2010). In particular, older HF patients report higher levels of dependence on FCGs than younger HF patients. Highly dependent HF patients require difficult and time consuming care from FCGs, causing these FCGs to experience role conflict and role strain (Yang et al., 2008).

Patient gender can also have an impact on physical disability in HF patients (Krumholz et al., 2004; Mcdonald et al., 2002; Rohrbaugh et al., 2002). Female HF patients report higher physical disabilities and emotional distress than male patients (Reigel et al., 2006; Ryan &

Farrelly, 2009). This may lead FCGs to report higher role conflict and role strain when they are responsible for female HF patients.

HF patients' varying education levels may influence levels of caregiver role conflict and role strain (Barbareschi et al., 2011). Well-educated HF patients may have more opportunities to search for information, support, and resources to meet their caregiving demands than less-educated patients (Barbareschi et al.). This may cause FCGs of well-educated HF patients to experience low levels of role conflict and role strain.

In summary, FCG and HF patient characteristics may significantly impact difficult and time consuming HF caregiving tasks, caregiver role conflict, and caregiver role strain. It remains unclear how these variables will positively or negatively impact caregiver role conflict and role strain. It is necessary to further examine these relationships. The following section will describe the relationship between significant components of the modified conceptual framework.

Relationship among Components of the Conceptual Model

The Role Strain Model of Rural Thai Family Caregivers of HF Patients model on which this study is based was developed by the PI and modified from Goode's Role Strain Theory (1960) (see Figure 1). The antecedents of role conflict and role strain based on Goode's theory refer to FCG and HF patient factors that influence difficult and time consuming HF caregiving tasks: medical, emotional and physical care. Difficult and time consuming HF caregiving tasks include HF patient medical care (drug administration, sodium control, and symptom observation), physical care (ADL and IADL tasks), and emotional care (being with the patients when they have emotional problems). These caregiving tasks affect role conflict and role strain. Caregiver role conflict occurs when FCGs experience incompatible role demands due to performing multiple role obligations. FCGs who experience role conflict can develop negative feelings such as difficulty, confinement, and stress; which are identified as caregiver role strain (Goode, 1960; Archbold et al., 1990).

The Role Strain Model of Rural Thai Family Caregivers of HF Patients includes six significant dimensions: FCG characteristics, HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, Social support, caregiver role conflict, and caregiver role strain. This modified linear relationship model shows the associations among these six dimensions: FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, Social support, caregiver role conflict, and caregiver role strain.

According to this framework, FCG characteristics (age, gender, education, relationship to patient, household income, employment status, number of roles, number of hours of care, and physical function) (upper left side of the Figure 1) and HF patient characteristics (age, gender, and education) (lower left side of the Figure 1) significantly affect levels of caregiver role conflict and role strain (Specific aim One). In this study, it was hypothesized that difficult and time consuming HF caregiving tasks significantly impact caregiver role conflict (middle of the Figure 1) as described in Specific aim Two. FCGs of HF patients deal with difficult and time consuming HF caregiving tasks (medical, emotional and physical care tasks) that are difficult and time consuming, leading them to develop the feeling of caregiver role conflict. These FCGs develop role strain as feelings of difficulty, confinement, and stress that result from role conflict.

For moderating factors, the belief in the Buddhist Karma Rule is hypothesized to moderate the relationship between levels of role conflict and role strain (Specific aim Three). The belief in the Buddhist Karma Rule motivates FCGs to provide care for HF patients. Another possible moderating factor is social support. Higher levels of social support were therefore hypothesized to moderate the relationship between levels of caregiver role conflict and role strain (Specific aim Three).

Summary

The purpose of this chapter was to discuss the model development and conceptual model of this study. The Role Strain of Rural Thai Family Caregivers of HF Patients model was modified for this study based on the Role Strain Theory (Goode, 1960). The model includes significant dimensions that have been hypothesized as being related. The significant factors of FCGs and HF patients based on the Role Strain Theory emphasize individual sociodemographic and socioeconomic characteristics that influence caregiver role conflict and role strain. Difficult and time consuming HF caregiving tasks were defined as the medical, physical, and emotional care tasks that FCGs perform for HF patients. These difficult and time consuming HF caregiving tasks are significant factors that influence levels of caregiver role conflict and role strain. The belief in the Buddhist Karma Rule and social support was tested as a possible moderating factor of the relationship between caregiver role conflict and role strain.

Chapter 3

Literature Review

The purpose of this chapter is to review literature regarding role conflict, role strain, difficult and time consuming HF caregiving tasks, FCG and HF characteristics, belief in the Buddhist Karma Rule, and social support. In this literature review, an overview of role conflict and role strain will be introduced first. Second, HF caregiving tasks and difficult and time consuming HF caregiving tasks will be presented. Third, significant factors of role conflict and role strain that include FCG and HF patient characteristics will be reviewed and discussed. Finally, studies in regard to the belief in the Buddhist Karma Rule and social support, which were hypothesized to influence levels of role conflict and role strain, will be presented.

Literature Review: Role Conflict and Role Strain

Role conflict and role strain have been studied since the mid-1960s in several academic areas, such as sociology, anthropology, social work, psychology, medicine, and nursing (Byron, 2005; Casper, Martin, & Erdwins, 2002; Frone, Russel, & Cooper, 1992; Lengacher, 1996). Research has been conducted to study the effects of possessing multiple roles. Much research has focused on role conflict in the work-family role (Barnett & Hyde, 2001; Greenhaus & Powel, 2006). These studies have consistently shown that individuals who care for family members and work outside the home tend to develop role conflict, resulting in emotional distress, such as stress and strain (Allend et al., 2000; Byron, 2005; Frone, 2000; Frone et al., 1992). Additionally, the results show that role conflict and role strain have been found to negatively influence individuals' health and well being.

Role strain is also identified as an interesting phenomenon in the nursing field. Numerous nursing studies report negative psychological and physical distress in FCGs who care for

chronically ill patients (Archbold et al., 1990; Schumacher et al., 2008). Role conflict and role strain are subtypes of emotional distress (Dilworth-Anderson, Williams, & Cooper, 1999). Role conflict and role strain are negative emotional distresses that may occur while FCGs are caring for chronically ill patients or disabled persons. Additionally, significant factors such as sociodemographics, socioeconomic, and health conditions that influence levels of role conflict and role strain have also been studied (Maclean, Glynn, & Ansara, 2004; Vilhjalmsson & Jansdottir, 2006; Williams, Dilworth-Anderson, & Goodwin, 2003).

Compared to non-FCGs, FCGs frequently experience high levels of emotional distress, including depression, anxiety, stress, and role strain (Schulz, Beach, Lind, Martire, Zdaniuk, Hirsch, Jackson, & Burton, 2001; Schulz et al., 2004). Role conflict and role strain can have negative effects on FCGs' physical and psychological health (Houghs & Galinsky, 1994; Beitman, et al., 2004; Ward, 1986). FCGs who experience role conflict and role strain frequently report poor physical and psychological health. These FCGs can develop undesirable symptoms, such as headaches, anxiety, insomnia, depressive symptoms, and fatigue (Frone, 2000; Williams, Dilworth-Anderson, & Goodwin, 2003; Ward, 1986).

Many role strain studies have focused on individual factors that affect levels of role conflict and role strain in FCGs of chronically ill patients (Archbold et al., 1990; Schumacher et al., 2008). Much research has been conducted to examine role conflict and role strain in FCGs of disabled persons such as the elderly and children. The majority of participants in role strain studies have been FCGs of chronically ill patients and disabled people. These studies show that chronically ill patients and disabled persons require more intensive care from FCGs, which causes these FCGs to experience role conflict and role strain. Due to the fact that HF is a chronic illness that deteriorates the physical and psychological health of patients, HF patients frequently require medical, physical, emotional, and social care from FCGs to maintain their health (DeGeest et al., 2003; Jaarsma et al., 2000; Pressler et al., 2009). FCGs who provide comprehensive care for HF patients may experience role conflict and role strain from dealing with difficult and time consuming HF caregiving tasks. Although FCGs of HF patients are at greater risk of developing role conflict and role strain, few studies are conducted in this area.

In summary, previous role conflict and role strain literature focuses on multiple dimensions of caregiver role strain, such as emotional, physical, financial, social, and workrelated strain (Archbold et al., 1990; Elliott & Shewchuk, 2003; Glynn et al., 2009; Martire & Stephen, 2003). The majority of caregiver role strain studies have included FCGs who care for elderly, dementia, cancer, or stroke patients. Although FCGs of HF patients are at risk for experiencing emotional distress, there are few studies regarding HF caregiver role conflict and role strain.

The following section will present the literature review in regard to HF disease, difficult and time consuming HF caregiving tasks, and how difficult and time consuming HF caregiving tasks can influence caregiver role conflict and role strain. The review begins with HF disease, and then discusses difficult and time consuming HF caregiving tasks, role conflict, and role strain.

Heart Failure

HF severity has been classified into four groups of functional classes using the criteria of the New York Heart Association (2010). The next paragraph will discuss the functional class of each category of HF.

HF functional classes. HF patients can be classified based on the functional classes of the NYHA (2010) and includes class I, II, III, and IV. For HF functional class I, HF patients

have no limitation in performing physical activities such as eating, bathing, walking, shopping, and preparing meals (NYHA). HF patients with functional I can manage their daily activities and HF symptoms. FCGs of HF patients with functional class I may provide some medical care (drug administration and some sodium control) and emotional care. Most FCGs of HF patients with functional class I may not experience role conflict and role strain from caring for HF patients. FCGs who care for HF patients with functional class I were not included in this study because they have low levels of involvement in caring for HF patients.

HF patients with functional class II have a slight limitation of physical activity that causes them to experience fatigue, palpitation, or dyspnea during ordinary physical activities (NYHA, 2010). HF patients with functional class II can deal with some of their daily activities. These patients may require more medical care (drug administration, sodium control, symptom management, etc.), physical care (physical exercise, house work, etc.) and emotional care (stress and depression relief, etc.) from their FCGs than HF patients with functional class I. FCGs who provide care for HF patients with functional class II for long periods of time may experience role conflict and role strain.

HF patients who are classified with functional class III experience marked limitation of physical activity. These patients are comfortable at rest but experience fatigue, palpitation, or breathlessness when they perform less than ordinary physical activities such as walking short distances or doing ADL with dyspnea (NYHA, 2010). FCGs of HF patients with functional class III deal with medical, physical, and emotional care that may include more difficult and time consuming tasks (DeGeest et al., 2003). This may cause many FCGs to experience role conflict and role strain.

For the most severe class, functional class IV, HF patients cannot perform physical activities such as walking, bathing, and eating without discomfort. If HF patients with functional class IV perform physical activities, they will experience increased discomfort (NYHA, 2010). Studies have shown that HF patients with a greater severity level of functional class tend to demand more care from their FCGs (Bakas et al., 2006; DeGeest et al., 2003). FCGs of HF patients with functional class IV may experience role conflict and role strain because they may deal with more difficult and time consuming caregiving tasks. Studies showed that FCGs of HF patients with functional class II to IV have reported high levels of emotional distress, such as depression, stress, burden, and role strain as a result of performing difficult and time consuming HF caregiving tasks (DeGeest et al.; Friedman et al., 2008). Therefore, FCGs of HF patients with functional class II to IV were included in this study in order to examine their levels of role conflict and role strain from providing care for HF patients.

HF caregiving tasks. Most FCGs of HF patients have to manage many types of caregiving tasks. Oberst et al. (1989) categorized caregiving tasks as direct care, IADL care, and interpersonal care. The original version of the Oberst Caregiving Burden Scale (OCBS) was used in this study to measure the burden of caregiving tasks (Carey, Oberst, McCubbin, & Hughes, 1991; Oberst, 1989). The revised OCBS is used to measure caregiving tasks' levels of difficulty and time consumption based on the caregiver's perception (Bakas & Burgener, 2002; Bakas et al., 2006). The revised Version was not used to measure levels of burden in this study. Caregiving tasks in the revised OCBS include: medical and personal care tasks, emotional and behavioral care tasks, financial tasks, communication, and talking with health care professionals (Oberst et al., 1989; Bakas et al., 2006; Pressler et al., 2009).

Studies of Bakas and colleagues (2001; 2002; 2006) have been conducted using the revised OCBS to measure the level of difficulty and time consuming care tasks based on the perception of FCGs. These results show that medical tasks, personal tasks, and emotional tasks were the most difficult tasks. Additionally, personal tasks and emotional tasks were the most time consuming tasks (Bakas et al.). Pressler and colleagues (2009) also used the OCBS to measure levels of difficulty and time consumption in FCGs of HF patients. FCGs of HF patients reported that emotional care and dietary managing were difficult. The OCBS showed high reliability of difficult and time consuming. Based on the study results of Bakas and colleagues (2001; 2002; 2006) and Pressler and colleagues (2009), the OCBS was suitable for use in this study to measure the extent of difficult and time consuming tasks in regard to FCGs' perception.

In this study, the PI modified categories of caregiving tasks in the OCBS. Fifteen items of the OCBS are grouped into three categories, which include medical tasks, physical tasks, and emotional care tasks. For medical care tasks, FCGs in this study were asked to rate the levels of difficulty and time consumption in completing medical care tasks, such as administration, monitoring symptoms, and talking with health professionals. FCGs rated their experience regarding difficulty and time consumption in regard to physical care tasks for HF patients, such as personal care, finance management, housework, transportation, and communication. In terms of emotional care tasks, FCGs were asked to report the level of difficulty in providing emotional support and managing emotional problems for the patient. The difficulty of each HF caregiving task will be discussed in the following paragraph.

Difficult HF caregiving tasks. HF is a chronic disease that frequently results in physical, emotional, and social disabilities (Jaarsma et al., 2000, Pressler et al., 2009; Riegel et al., 2009). HF patients can develop severe symptoms and negative effects, including physical symptoms

(dyspnea, cough, edema, loss of appetite, constipation as result of bed rest, increased urine output as result of diuretic drugs, fatigue as a result of low ejected fractions, bed rest, and sleep disturbance), emotional problems (sadness, anxiety, depression, and stress), and social problems (decrease in social activity as a result of fatigue and anxiety, and fear of being rejected by society) (Albert et al., 2010; Riegel et al., 2009).

FCGs are often required to care for HF patients at home. These FCGs frequently assist HF patients with medical, emotional, and physical care. This may cause FCGs to experience role conflict and role strain because they cannot deal with these difficult HF caregiving tasks. One study found that medical tasks and emotional support are the most difficult tasks and lead FCGs to experience negative effects of caregiving (Bakas et al., 2006). Studies have also shown that being an FCG to HF patients can produce substantial stress and often results in poor psychosocial outcomes for the FCG (Hwang et al., 2011; Pressler et al., 2009).

Time consuming HF caregiving tasks. Research regarding a variety of chronic illnesses has consistently found that providing care to functionally dependent patients contributes to physical and psychological morbidity in FCGs (Friedman et al., 2008; Vitaliano, Zhang, Scanlan, 2003). Earlier studies found that informal caregivers experience higher levels of strain and stress, and have a higher mortality risk than non-FCGs (Molloy, Johnstonb, & Witham, 2005; Schulz & Beach, 1999). The majority of informal caregiver studies have been with Alzheimer's disease, dementia, stroke, and cancer patients. There are few other studies regarding the impact of the informal caregiver role for HF patients. Specifically, the impact of difficult and time consuming HF caregiving tasks on FCGs' health should be investigated (Bakas et al., 2006).

Regarding earlier studies, some found that medical, physical, and emotional care tasks are time consuming tasks, particularly when caregiving for HF patients with high levels of physical disability (Bakas et at., 2006; Friedman et al., 2008; Maraldi et al., 2006). Timely caregiving for patients with high levels of physical disability may disrupt FCGs' personal or other social roles and may produce negative effects of caregiving, including role conflict and role strain.

In 2005, Molloy and colleagues reviewed articles concerning the informal HF caregiving role and its impact on the health of the FCG. The results showed that specific demands on FCGs include monitoring difficult medical and self-care management of HF patients. In addition, HF patients were frequently hospitalized. Few studies have been conducted regarding difficult and time consuming medical, emotional, and physical tasks. Another study found that patients with moderate to severe HF are often dependent on family or friends for assistance with IADL tasks (such as shopping, doing housework, preparing meals) and ADL tasks (bathing, eating, and dressing) (DeGeest et al., 2003; Friedman et al., 2008). FCGs often deal with various problems of HF patients, which includes limitation of physical movement, difficult medical care, emotional distress, social dysfunction, and sleep disturbance, resulting in negative effects on FCGs' health (DeGeest et al., 2003; Bakas et al., 2006; Pressler et al., 2009).

In summary, although family members play a major role in supporting their ill or disabled relatives, the emphasis in current research has been on the patient and the disease process rather than on FCGs (DeGeest et al., 2003; Molloy et al., 2005). FCGs' physical and psychological distress is associated with the extent of the patient's disability, and level of difficulty and number of caregiving tasks. Research literature has indicated that the most significant consequence of caregiving is the emotional distress placed on FCGs (DeGeest et al.; Friedman et al., 2008). Providing care for HF patients may restrict FCGs' personal life, employment, social life, and recreational activities, resulting in stressful environments for the FCGs (Roth et al., 2005; Schulz et al., 2004).

Types of HF caregiving tasks. FCGs play an important role in caring for chronically ill patients. These FCGs deal with various care tasks for this study. Caregiving tasks were frequently defined by the time spent on the tasks, the number of tasks, and the amount of assistance provided (Cameron, Cheung, & Stewart, 2002; Carey et al., 1991; Nijboer, Trimstra, Tempelaar, Sandeman, & van den Bos, 2001; Oberst et al., 1989). Caregiving tasks are frequently measured by the number of activities for which the patient is dependent upon the FCG (Kramer & Kipins, 1995). Evidence shows that a greater involvement in caregiving tasks is related to a higher level of emotional distress (Montogomery, Goneea, & Hooyman, 1985; Bakas et al., 2006).

HF patients often develop many troublesome signs and symptoms that require FCGs to deal with medical care tasks (Albert et al., 2010; Pressler et al., 2009; Riegel & Dickson, 2008). HF patients need assistance from family members to help them deal with severe symptoms, administer medications, control fluids and sodium, and monitor side effects of medications (Bakas et al., 2006; Jaarsma et al., 2000). FCGs who help HF patients deal with medical HF caregiving tasks may experience role conflict and role strain because less-experienced FCGs may have problems detecting worsening signs and symptoms. FCGs have to prepare a restricted sodium diet for HF patients daily. Sodium control in the diet of HF patients can be a challenge for FCGs because it is difficult to calculate the total amount of sodium in ordinary food. Furthermore, HF patients may not control sodium, which affects the FCGs ability to deal with this problem.

Due to the progressive disability of many HF patients, they become more dependent on FCGs for physical care tasks, such as mobility, bathing, and eating (DeGeest et al. et al., 2003). FCGs assist HF patients with mobility, housework, preparing meals, and other daily activities. FCGs assist HF patients with activities of daily living (ADL) and instrumental activities of daily living (IADL) care (DeGeest et al.; Evangelista et al., 2002). ADL tasks refer to the assistance provided to HF patients with activities such as eating, bathing, and walking (Schumacher, Beck, & Marren, 2006). IADL tasks involve assisting HF patients with instrumental activities of daily living, such as meal preparation, transportation, and housework (Schumacher et al.). ADL and IADL are time consuming tasks, particularly when caring for HF patients with high levels of physical disability (Bakas et al., 2006; Riegel et al., 2009). Caregiving for patients with high levels of physical disability may disrupt FCGs' personal time or other social roles and may produce negative effects of caregiving, including role conflict and role strain.

Emotional care is a major need of HF patients (Hwang et al., 2011; Molloy et al., 2005). HF patients experience emotional problems such as sadness, depression, fear, anxiety, and stress because HF causes severe symptoms and sometimes sudden death (Hwang et al.; Krumholz et al., 2002). Emotional care refers to the assistance from FCGs to relieve the stress, anxiety, and worries of the HF patient. HF patients are often concerned with their severe symptoms and the uncertainty of their future lives. It is often necessary for FCGs to provide emotional support for HF patients to relieve these negative emotions. FCGs provide emotional care for HF patients, which includes helping them to relieve emotional distress, providing support to the patients, and assisting patients in managing their negative emotions such as stress; depression; and anxiety (Bakas et al., 2006; Oberst et al., 1989).

FCGs are required to manage various health problems of HF patients, which may cause FCGs to experience emotional distress and hinder their ability to provide help to patients. If the FCGs handle multiple tasks for disabled patients along with completing other role obligations, they may be at risk for experiencing role conflict and role strain (Prawtaku, 2005; Schumacher et al., 2008). In comparison with other chronic conditions, HF patients have reported some of the worst physical, psychological, and social problems (Boyd et al., 2004; Hwang et al., 2011). Many studies found that HF patients frequently experienced uncontrolled symptoms, emotional distress, and poor quality of life and had little understanding of their illness and its prognosis (Hwang et al., 2011; Juenger et al., 2002; Molloy, Johnstonb, & Witham, 2005). FCGs of HF patients with functional class II to IV may have to deal with unexpected severe symptoms such as fatigue, breathlessness, and edema.

Additionally, many HF patients may not be able to deal with self-care and difficult medication schedules (Jarrsma et al., 2000; Molloy, Johnstonb, & Witham). Consequently, HF patients frequently require more medical, physical, and emotional care from FCGs, which may cause FCGs to develop emotional distress including depression, anxiety, stress, and role strain (Biegel & Schulz, 1999; Molloy et al., 2005). In Thailand, HF patients at the advanced stage may experience severe symptoms and may not be able to manage them by themselves (Dedkhard, 2011). This may result in Thai HF patients with functional class II to IV requiring more medical, physical, and emotional care from their FCGs, causing Thai FCGs to experience role conflict, role strain, and other emotional distresses.

In Thailand, the incidence and prevalence of HF is increasing (Ministry of Public Health of Thailand, 2008). There are very few comprehensive studies that have systematically examined the physical and emotional impacts of difficult and time consuming HF caregiving tasks on

informal caregivers in Thailand. Little is known about caregiver role conflict and role strain in FCGs of HF patients. There is a lack of literature regarding the impact of HF caregiving tasks on FCG health, particularly on emotional distress such as role strain.

In summary, previous studies have shown that caregiving tasks can frequently affect the emotional, physical, and social health of FCGs (Bakas et al., 2006; Hwang et al., 2011; Gaugler, Hanna, Linder, Given, Tolbert, Kataria, & Regine, 2005; Oberst et al., 1989). HF patients experience physical, emotional, and social disability due to the poor function of their heart. Caregiving tasks of HF patients may affect FCGs' psychological health and social function because these FCGs often modify their personal lives, change their family's overall lifestyle, and interrupt the established balance within their family (Molloy et al., 2005; Pressler et al., 2009). Caregiving tasks in relation to HF symptoms have been identified as significant predictors of emotional distress, including role conflict and role strain. The relationship between the HF patient's needs and the difficult and time consuming HF caregiving tasks can produce role conflict and role strain. The following section will present how difficult and time consuming HF caregiving tasks impact the levels of role conflict and role strain.

Difficult and Time Consuming HF Caregiving Tasks, Role Conflict, and Role Strain

Research has suggested that providing care to chronically ill patients or disabled persons can have deleterious effects on the psychological and physical health of FCGs (Schulz, O'Brien, Bookwala, & Fleissner, 1995; Schulz, Visintainer, & Williamson, 1990; Yu, Lee, Kwong, Tompson, & Woo, 2007). Study results show that difficult and time consuming HF caregiving tasks negatively affect FCGs' physical and emotional health (Bakas & Bungerner, 2002; 2006; Pressler et al., 2009). Pressler and colleagues (2009) and Bakas and colleagues (2006) found that HF caregiving tasks are frequently difficult and time consuming. These two studies reveal that FCGs of HF patients tend to experience physical and emotional distress due to difficult and time consuming physical, emotional, and social care for HF patients. FCGs may experience emotional distress symptoms that include stress, depression, anxiety, role conflict, and role strain due to dealing with difficult and time consuming HF caregiving tasks (Hwang et al., 2011; Pressler et al., 2009). Many studies show that FCGs who complete multiple roles tend to experience role conflict and role strain because they cannot effectively balance their roles (Brody, 1989, 1990; Goode, 1960; Roth et al., 2005; Vitaliano et al., 2003). FCGs who perform additional family and social role obligations often spend much of their time and energy completing their roles. This may lead these FCGs to experience negative outcomes of care such as role conflict and role strain.

Study results show that employed FCGs tend to experience role conflict and role strain because family roles and work roles are frequently in conflict with each other (Barling, MacEwen, Kelloway, & Higginbottom, 1994; Butler, Grzywacz, Bass, & Linney, 2005; Gordon et al., 2011; McManus, Korabik, Rosin, & Kelloway, 2002). With regard to these studies, there are consistent results that FCGs who care for HF patients tend to report high emotional distress such as stress, depression, worry, anxiety, and uncertainty (Bakas et al., 2006; Chung et al., 2010; Elliott, & Shewchuk, 2003; Pressler et al., 2009). Patients in the advanced stages of HF disease become dependent upon family members and require permanent assistance from FCGs. FCGs who provide care for HF patients with functional class II to IV may experience a loss of time spent on personal, professional, and social lives; recreational activities; and managing a

household, causing FCGs to develop a sense of role conflict (Bakas et al., 2006; Perrone et al., 2005; Piko, 2006).

Caregiving demands lead many FCGs to experience physical and emotional problems if they cannot handle their caregiving roles (Martire & Stephen, 2003; Molloy et al., 2005). FCGs' emotional distress may also result from worrying about worsening symptoms and the possible sudden death of a patient. This often results in negative effects on the caregiver, such as stress, emotional distress, strain, and depression (Haley et al., 2003; Hwang et al., 2011; Nijboer et al., 2001; Schulz et al., 2001).

In summary, research reveals a negative impact on the emotional and physical health of many FCGs due to caring for chronically ill patients. As previously described, there are limited studies concerning the impact of difficult and time consuming HF caregiving tasks on caregiver role conflict and role strain. Some studies have been conducted regarding number and difficulty of HF tasks. Studies have shown that caregiving tasks of HF patients are difficult and time consuming, leading FCGs to experience negative outcomes (Bakas et al., 2006; Pressler et al., 2009). There are few studies concerning difficult care and time consuming tasks of HF patients, which influence levels of role conflict and role strain in FCGs. FCGs who complete difficult and time consuming HF caregiving tasks for HF patients may be at risk for emotional distresses that include role conflict and role strain.

Role Conflict

Role conflict refers to incompatibility between varied role demands (Edward et al., 2003; Hecht, 2001; Kahn et al., 1964; Rizo, House, & Lirtzman, 1970). Studies show that role conflict occurs when there is an incompatibility of pressures within different demands of work, social, and family roles (Stoeva, Chiu, & Greenhaus, 2002; Yang et al., 2008). Additionally, role
conflict is associated with physical and emotional distress (Allen et al., 2000; Chung et al., 2010). In particular, many studies provide consistent evidence that performing multiple roles can result in emotional distress, including conflict between roles (Barnett & Hyde, 2001; Edward et al., 2003; Greenhaus & Powel, 2006; Hecht, 2001). This conflict may cause emotional distress in the form of role strain.

Literature has shown that a majority of role conflict studies have focused on family-work conflicts, particularly on role conflict in women performing caregiver and worker roles. One study found that over 40% of working parents experience role conflict (Allen et al., 2000). Employed females caring for family members such as children, husbands, or elderly relatives experience role overload and role conflict (Bacharach, Bamberger, & Conley, 1990; Frone et al., 1992; Maclean, Glynn, & Ansara, 2004; McCallion, Toseland, & Diehl, 1994). FCGs devote their time to provide care for ill relatives, so they have insufficient time to care for other family members. This situation may cause FCGs to experience role conflict between family and work roles. Role conflict may occur because FCGs do not succeed in balancing their caregiver role with work roles.

Based on these findings, one may conclude that family-work conflict is a consistent source of stress that affects personal well-being, family relationships, and work life (Clarkberg & Moen, 2001; Gomez, 2006; Halpern, 2005; Jacobs & Gerson, 2001; Perrone et al., 2007). The conflict between the work role and the family role is caused by incompatibility between dual role demands. Literature has shown consistent findings that role conflict causes many negative effects, including job dissatisfaction, life dissatisfaction, turnover intentions, and psychological strain (Allen et al., 2000; Casper et al., 2002; Edwards et al., 2002; Frone, 2000; Jacobs, & Gerson, 2001; Jawahar et al., 2007; Leaptrott & Mcdonald , 2011).

In Thailand, women are expected to care for family members (Caffrey, 1992). The role of rural Thai women has changed over time. Currently, like women in urban areas, rural Thai women frequently work outside the home (such as working for a farm, company, or industry) more than in the past (Laubunjong et al., 2008; Punyahotra & Dennerste, 1997). Some rural Thai FCGs of HF patients who perform both caregiver role and work role may experience role conflict, role strain, and other emotional distress because these FCGs cannot complete caregiving role and work role obligations.

Nurse researchers have been interested in role conflict due to caring for chronically ill patients and the significant factors that influence levels of role conflict in FCGs. Study results showed that individual characteristics such as age, gender, education, and levels of dependence are significant predictors of role conflict and role strain (Achbold et al., 1990; Maclean, Glynn, & Ansara, 2004). Studies in nursing and other fields show consistent findings of role conflict (Allen et al., 2000; Atenza, Stephens, & Townesend, 2002; Yang et al., 2008). Negative emotions are most consistently related to role conflict (Bruck & Allen, 2003). Additionally, work-family conflict was related to psychiatric and substance abuse in FCGs with multiple roles (Frone, 2000). Individuals who face role conflict frequently lack the time to care for their family members, leading these FCGs to suffer from anxiety, guilt, self-blame, role strain, and negative somatic symptoms more frequently than the general population (Frone; Stephens et al., 2001).

Furthermore, caregiving may cause a decrease in FCGs' social roles and recreational activities due to maintaining the caregiver role (Pearson, 2008; Rapp & Chao, 2000). FCGs experience many health problems, such as sleep disturbance and back injuries that can occur while providing physical care for patients (Kossek & Ozeki, 1998). Caregiving can also hinder work role obligations, resulting in rescheduling work or decreasing work hours. Currently, in

rural and urban areas, more women tend to work outside the home due to the change of social trends and financial problems, which leads these female FCGs to face conflict between informal caregiving and employment (Ahmad & Ngah, 2000; Allen et al., 2000; Atenza, Stephens, & Townesend, 2002). These employed FCGs may reduce their work hours because they have to provide care for physically and cognitively disabled patients. FCGs may need to rearrange work schedules, change from a full-time to a part-time job, or quit jobs entirely. This may cause FCGs to experience problems like financial hardships.

In summary, role conflict studies show that role conflict is influenced by individual characteristics such as age, gender, and education. Additionally, role conflict is identified as a predictor of negative effects on FCGs' health, including stress, anxiety, dissatisfaction, and role strain. Role conflict affects individuals' physical and psychological health. In nursing, both Thailand and western studies showed that the majority of role conflict studies focus on conflict between the caregiving role, work role, and other family roles. Thai nursing researchers frequently studied role conflict and role strain in FCGs of chronically ill patients and disabled persons (Churoeck, 2005; Matayamoon, 2003; Prawtaku, 2006). Few studies, however, have been conducted concerning role conflict in FCGs of HF patients, particularly in rural Thai FCGs.

Some studies have shown the relationship between role conflict and role strain. FCGs who report high levels of role conflict tend to experience high levels of role strain (Rapp & Chao, 2000; Rozario et al., 2004). Specifically, the levels of role strain are influenced by role conflict. The next section will review literature in regard to role strain.

Role Strain

Role strain is often conceptualized as a negative emotional response to stress, which can result in depression or other negative effects (Rothbard, 2001; Rohrbaugh et al., 2002). Caregiver

role strain refers to the feeling of difficulty resulting from the inability to complete various role demands, or from perceived role conflict (Archbold et al., 1990; Mui, 1995). A specific role might consume energy and resources needed to complete the demands of other family and social roles (Gordon et al., 2011; Marks, 1977).

Many studies examining the role strain in FCGs regarding caregiving and chronic illness have identified several factors that impact levels of role strain. The following studies show consistent results concerning causes and impacts of role strain. One study found that feelings of role strain were created by the number and difficulty of the roles the FCG assumed (Kurz & Cavanaugh, 2001). Additionally, role strain could result in depressive symptoms and other negative physical and emotional effects (Rothbard, 2001). Therefore, negative emotions are influenced by the conflict of multiple family and work roles (Stoeva et al., 2003). Based on these results, role strain is caused by conflict between the caregiver role and multiple other roles. Role strain can result in negative physical and emotional effects on FCGs.

Much research has shown that individuals who perform multiple roles tend to experience role strain (Archbold et al., 1990; Lenchgacher, 1997; McManus, Korabik, Rosin, & Kelloway, 2002; Mui, 1995; Rozario et al., 2004). Previous studies show consistent results that FCGs who combine family care with the work role report negative outcomes, such as depression, stress, strain, and work disruption (Casper et al., 2002; Jacobs, & Gerson, 2001; Stephen et al., 2001). Studies also found that role strain is comprised of two significant components: role overload and role conflict. Sieber (1974) determined that role strain includes two overlapping dimensions: role overload, which refers to "constraints imposed by time;" and role conflict, which refers to "discrepant expectations irrespective of time pressures" (p. 567). The result of additional roles is a strain on the caregiver. Specifically, individuals can experience feelings of difficulty because caregiving role demands interfere with other role obligations. The effects of both role conflict and role overload produce role strain because FCGs feel that the situation of caregiving is stressful (Archbold et al., 1990; Rohrbaugh et al., 2002; Schumacher et al., 2008).

Although role strain studies has been predominately used to examine the effect of combining work and family roles, these studies have also been used to describe other roles occupied by an individual such as caregiving (Rozario et al., 2004; Stephens et al., 2001). FCGs who combine family care with work role obligations report high levels of emotional and physical distress, along with work disruption (Brody et al., 1989; Roth et al., 2005; Seib & Muller, 1999; Rapp & Chao, 2000).

Another focus of role strain studies is the impact of role strain on health and well-being. Research on caregiver well-being shows that role strain is influenced by individual characteristics such as age, race, gender, and education. For example, Mui (1992) found that black daughter reported lower levels of role strain than other racial groups. Results implied that white caregivers tend to experience high levels of role strain that may cause by that they cannot complete their role obligations.

Studies in Thailand found that Thai FCGs experienced low levels of role strain (Churoeck, 2005; Matayamool, 2003). This may result from Thai FCGs receiving support from their family members to care for a patient. Thai families, particularly in rural Thailand, have close relationships, and family members frequently help FCGs to care for HF patients. This study determined levels of role conflict and role strain in FCGs of HF patients in rural areas of eastern Thailand. These FCGs may experience low levels of role strain because they receive high levels of support from family, friends, and other people. FCGs with limited support cannot deal with

some of the difficult and time consuming HF caregiving tasks, which may cause them to experience role conflict and role strain.

As previously mentioned, individual characteristics can influence levels of role conflict and role strain. Women are more likely to assist with care provision tasks and report work-role strain, and they experience higher levels of burden than men (Rohrbaughet al., 2002). Many studies on caregiver role strain have been conducted in patients with chronic illnesses, such as cancer, stroke, and dementia. These studies focus on individual factors that influence levels of caregiver role strain (Elliott & Shewchuk, 2003; Maclean, Glynn, & Ansara, 2004). In addition, resources of caregiving such as social support, time, knowledge, and skills FCGs use to deal with physical; emotional; and social care tasks are also examined (Erdwins et al., 2001; Mui, 1992; Hwang et al., 2011). Multiple roles, particularly caring for family members along with working outside the home, have been most frequently studied (Frone, 2000; Frone et al., 1992; Glynn et al., 2009; Rothbard et al., 2001; 2003).

The results of studying role conflict and role strain in western countries shows that FCGs of chronically ill patients experience high levels of role conflict and role strain. These results differ from studies in Thailand. Among initial research regarding caregiver role conflict and role strain in Thailand, studies were conducted regarding FCG role strain from caring for patients with stroke and cerebrovascular disease (Churoeck, 2005; Matayamool, 2003; Prawtaku, 2006).

Matayamool (2003) studied significant factors of role strain in Thai FCGs of stroke patients. The results show that Thai FCGs of stroke patients reported mild role strain due to caring for patients. These results were different from role strain studies in western counties. The low levels of Thai FCG role conflict and role strain may result from Buddhist beliefs that enable these FCGs to enjoy the positive effects of the caregiver role. There have been few studies on role strain in FCGs of HF patients in rural Thailand. Moreover, there have been no studies investigating perceived role conflict and role strain factors of FCGs who care for HF patients. In this study, levels of role conflict and role strain in rural Thai FCGs who care for HF patients were investigated. Rural Thai FCGs of HF patients may experience role conflict and role strain from completing difficult and time consuming HF caregiving tasks.

In summary, studies of role strain both in western countries and Thailand focus on FCGs of chronically ill patients. Studies in western countries show that FCGs tend to report high levels of role strain influenced by role conflict between the caregiving role and other social roles. Chronic illnesses often require progressive caregiving tasks from FCGs that are difficult and time consuming, resulting in a difficulty to fulfill other role obligations and social activities (Schulz et al., 2004; Yu et al., 2008; Vitaliano et al., 2003). Due to difficult care tasks and multidrug regimens, FCGs of HF patients may experience negative feelings (Boyd et al., 2004; Britz & Dunn, 2010; Pressler et al., 2009). However, few studies were conducted in the U.S. and Thailand that focus on role strain in FCGs who care for HF patients. This study will therefore explore the levels of role conflict and role strain in rural Thai FCGs who care for HF patients. Earlier studies show that levels of role conflict and role strain can be affected by individual factors. There are many factors that affect difficult and time consuming HF caregiving tasks, role conflict, and role strain. These factors include FCG and HF patient characteristics. These relationships will be reviewed in the following section.

FCG and HF Patient Characteristics

Individual characteristics are significant factors that affect levels of caregiver role conflict and role strain. Caregiving situations are impacted by individual backgrounds, social factors, and cultural factors (Archbold et al., 1990; Krammer & Kipins, 1995; Scharlach, Li, & Dalvi, 2006; Wang et al., 2010). Individual characteristics such as age, gender, race, and marital status have been identified as significant predictors of caregiving outcomes (Mui, 1995; Scharlach & Fredriksen, 1993; 1994). These factors included FCG and HF patient characteristics. FCG characteristics were defined as age, gender, education, relationship to patient, household income, employment status, number of roles, number of hours of care, and physical function. HF patient characteristics included age, gender, and education. These significant factors will be reviewed and discussed in the following section. Literature concerning FCG characteristics, HF patient characteristics, and social support will also be reviewed and discussed, respectively.

FCG age. Nursing research shows that older FCGs experience higher levels of physical and emotional distress than younger FCGs (Mui & Morrow-Howell, 1993; Pinquart & Sörensen, 2003; Schulz et al., 1995; Vitaliano, Scanlan, & Zhang, 2003). Some studies show that older FCGs perceive more role conflict and role strain than younger FCGs. Older FCGs are more likely to experience a sense of role strain because they may have limited finances and physical function. However, some studies show that age does not have a significant impact on levels of role conflict and role strain in FCGs (Rozario, Morrow-Howell, & Hinterlong, 2004).

In summary, numerous studies show that FCG age has a significant impact on emotional distress, including role conflict and role strain. However, some studies state that levels of caregiver role conflict and role strain are not affected by age. The impact of FCG age on the levels of role conflict and role strain was therefore investigated in this study.

FCG gender. A large number of studies have shown that female FCGs report high levels of emotional distress due to caring for patients and disabled persons (Cantor, 1983; Fitting, Rabin, Lucus, & Estham, 1986; Schulz et al., 1995; Vitaliano, Scanlan, & Zhang, 2003). Study

results found that female FCGs who care for spouses report poor personal health and high levels of role strain more frequently than male FCGs (Elliot & Shewchuk, 2003; Mark, 1988). Female FCGs may be more likely to take primary responsibility for household tasks and personal care for family members in addition to completing difficult and time consuming HF caregiving tasks. FCG gender can influence levels of caregiver role conflict and role strain (Miller, 1990; Yee & Schulz, 2000). Female FCGs perform caregiving roles in addition to other roles, and they are often unable to complete their other role obligations.

In the U.S., numerous studies have reported a significant impact of gender on familywork role conflict and role strain. Female FCGs report more emotional distress because they have more stressful experiences and greater role strain (Eckman, 2004; Gore & Mangion, 1983; Kressler, 1979; Yee & Schulz, 2000). Miller (1990) concluded the gender variation that influenced FCGs' emotional distress in terms of different levels of involvement in caregiving responsibility and the accessibility of social support. Additionally, male and female FCGs may handle caregiving tasks based on traditional patterns of gender-role behavior: female FCGs attend to personal care, and male FCGs attend to structured activities. Many males and females may have a different focus of caregiving based on their gender roles.

Female FCGs were interested in interpersonal relationships with their patients and families and in being involved in the daily activities of a patient or interaction with family members. Female FCGs tended to experience more emotional distress if they faced a bad relationship with a patient while performing a caregiver role. Male FCGs focused on the environment, such as their involvement in financial management and household projects. These male FCGs may ignore the emotional aspects of the caregiver role. In this way, female and male

FCGs may experience different levels of caregiver role conflict and role strain because of gender role variation.

In many studies, female FCGs reported more emotional distress than male FCGs. Consistent findings suggest that female FCGs experience high levels of role conflict and role strain (Archbold et al., 1990; Miller & Cafasso, 1992; Stone & Short, 1990). However, some studies show that female FCGs receive more support from family than male FCGs, which may moderate levels of role conflict and role strain. FCG gender was included in the study in order to investigate its impact on the level of role conflict and role strain.

FCG education. Evidence shows that less-educated FCGs report higher levels of caregiver role conflict and role strain than well-educated FCGs (Scharlach, Li, & Dalvi, 2006; Wang et al., 2010). FCGs who are less educated report higher levels of role conflict than well-educated FCGs (Stephen et al., 2001). These results are consistent with the study done by Miller and Cafasso (1992), which showed that FCG emotional distress is related to the level of FCG education. Researchers explain that well-educated FCGs may have access to more social resources, networks, and information than less-educated FCGs. Well-educated FCGs may manage their roles better than less-educated FCGs. This study was conducted in FCGs of HF patients in rural eastern Thailand. Rural residents in Thailand generally had low education (Wiwanitkit, 2005). Less-educated residents frequently worked on farms in rural areas and lived far away from health care settings, particularly tertiary care hospitals (Dedkhard, 2011). Therefore, less-educated rural Thai FCGs may experience role conflict and role strain from caring for an HF patient because they may have less access to health information and resources.

In summary, many studies show the impact of FCG education on levels of role conflict and role strain. FCG education may have significant effects on role conflict and role strain in rural Thai FCGs. Therefore, FCG education and its impact on caregiver role conflict and role strain was examined in this study.

FCG relationship to patient. Studies in western countries show that spousal FCGs experience more role conflict, role strain, and other negative emotions than daughter/son FCGs (Cantor, 1983; Geoge & Gwyther, 1986; Rohrbaugh et al., 2002). Studies have shown that the FCG's relationship to the patient is related to caregiver role strain. Brody (1981) found that middle-aged adult children tend to develop more role strain than spousal FCGs. Many family members are obliged to complete caregiving roles and family roles (Hoffman, Rice, & Sung, 1996). A caregiving role may lead FCGs to experience negative outcomes if they cannot complete their role successfully. Each type of FCG/patient relationship requires additional obligations for FCGs to complete along with a caregiving role (Byron, 2005; Cameron et al., 2002). However, there are some inconsistencies regarding relationship to patient on levels of role conflict and role strain. For example, one study found that sons report that the caregiving role affects other family responsibilities (Kramer & Kupins, 1995). Adversely, Bernard and colleagues (2003) found that adult daughters reported more role strain than adult sons. However, another study found no differences in perception of role conflict and role strain for son/daughter relationships (Rapp et al., 2000).

In summary, several caregiver studies have provided evidence that the two primary groups of Thai FCGs are adult children and spouses of HF patients (Sirapho-Ngam, 2003). Spouses are more likely to provide care for patients and experience higher levels of role conflict and role strain. The son/daughter tends to experience less strain associated with the caregiver role than the spouse. However, there is a lack of studies regarding the levels of role conflict and role strain in both adult children and spousal FCGs in Thailand.

FCG employment status. Regarding FCGs' employment status, studies found that unemployed FCGs are more likely to experience the negative effects of caregiving than those who are employed (Aneshensel, 1992; Edwards et al., 2002; Dilworth & Kingsbury, 2005). On the other hand, a caregiver role may create a disruption in a work role, such as reduced work hours or quitting the job to provide care for a patient as shown in many studies (Frone, 2000: Stephen et al., 2001; Leaptrott & Mcdonald, 2011; Maclean, Glynn, & Ansara, 2004; Perrone et al., 2005). More recent research has found that family-work conflict is also linked to adverse outcomes such as stress, job dissatisfaction, and life dissatisfaction (Kelloway, Gottlieb, & Barham, 1999; Frone, 2000; Netemeyer et al., 1996; Stephen et al., 2001).

However, some studies show results that employed FCGs with younger children report high levels of psychological distress (Rosenbaum & Cohen, 1999; Pavalko & Woodbury, 2000; Stephen et al., 2001, Halpen, 2005). Based on these studies' results, employed FCGs with the high demands of a parent role (caring for younger children) tend to experience more emotional distress than employed FCGs with low demand parent roles. Employment status may affect levels of caregiver role conflict and role strain because FCGs cannot complete caregiving and work role obligations (Frone, 2000; Frone et al., 1992). In other words, a caregiving role affects a work role, leading FCGs to be unable to perform these two roles successfully, causing them to experience role conflict and role strain.

On the other hand, a few studies have found that employment status did not affect levels of role conflict or role strain. Edwards and colleagues (2002) found that employment status had no significant effect on levels of role conflict and role strain. However, there were few study results that support the statement that there is no effect of employment status on levels of role conflict and role strain. Findings of the relationship between employment status, role conflict,

and role strain were inconsistent with respect to some earlier studies. Therefore, employment status of FCGs was included in this study in order to examine the true relationship between caregiver employment status and caregiver role conflict and role strain.

Household income. Household income is a significant factor affecting the lives of many FCGs (Beitman et al., 2004; Vilhjalmsson & Jansdottir, 2006). FCGs who experience financial problems tend to experience negative emotions such as role conflict, role strain, and depressive symptoms (Vilhjalmsson & Jansdottir). Financial strain is a significant factor that may affect caregiver role conflict and role strain. Studies show that FCGs with a higher income experience fewer burdens and other psychological distresses than low-income FCGs (Pinquart & Sorensen, 2005; Ross & Huber, 1985).

In summary, low-income FCGs tend to report high levels of role conflict and role strain. This factor was therefore included in this study in order to examine its impact on levels of role conflict and role strain in FCGs of HF patients. This investigation of the impact of household income on role conflict and role strain supports the idea that high income FCGs tend to experience a lower level of role conflict and role strain.

Number of hours of care. Many studies have shown that the number of hours of care is an important factor associated with the levels of role conflict, role strain and other emotional distresses (Bakas & Bungerner, 2002; Wang et al., 2010). The number of hours an FCG works should be considered when studying role conflict (Edwards et al., 2004). Martire and colleagues (1995) found a statistically significant relationship between the number of hours of care and caregiving-induced stress.

Difficult and time consuming HF caregiving task demands can be viewed as contributing to negative outcomes, especially if the FCG's responsibilities involve working long hours

(Oberst et al., 1989; Bakas, 2006; Hwang et al., 2011). Schulz and colleagues (2004) studied the impact of long hours of care for dementia patients on FCGs' health and well-being. Results show a correlation between the number of hours of care and the amount of emotional distress in FCGs.

In summary, research results show consistent findings regarding the relationship between number of hours of care and amount of emotional distress. HF caregiving is a time consuming task that may affect levels of role conflict and role strain. The number of hours of care was therefore included in this study to investigate its impact on levels of caregiver role conflict and role strain.

FCG number of family roles. Studies have indicated that number of roles is associated with levels of caregiver role conflict and role strain (Archbold et al., 1990; Schumacher et al., 2008). FCGs may perform multiple roles such as spouse, parent, and worker. Evidence shows that a caregiving role interferes with other roles because of the lack of time and resources for other roles. For example, working FCGs who had young children reported higher levels of role conflict than those without children (Maclean, Glynn, & Ansara, 2004; Steven et al., 1992). Multiple roles have been found to cause a variety of adverse effects on FCGs' psychological and physical health (Gomez, 2006; Grönlund & Öun, 2010). The majority of negative effects include trouble sleeping, nervousness and stress, loss of appetite, exhaustion, shortness of breath, heart palpitation, dizziness, headache, and back pain (Houghs & Galinsky, 1994). However, Rozario et al. (2004) found no evidence of role strain in FCGs who work outside the home. The study suggests that FCGs who can complete their roles do not experience role conflict or role strain.

In summary, performing multiple roles can result in role conflict and role strain (as shown in many earlier studies). However, some FCGs do not experience role conflict and role strain due to occupying multiple roles. This relationship was further examined in this study. **FCG physical function.** Some research has suggested that FCGs with poor physical function tend to experience role conflict, role strain, and other negative emotions (Chung, Pressler, Dunbar, Lennie, & Moser, 2010; Schumacher et al., 2008). Little research has been conducted regarding the impact of FCG physical function on emotional distress (Chun, Knight, & Youn, 2008). Study results show that FCGs who report high levels of physical function limitation face difficulty in completing a caregiving role (Chung et al.). FCGs tend to develop negative feelings such as burden, depression, strain, and stress.

In summary, physical and emotional health effects of caregiving have been examined over time. The impact of physical function on levels of FCGs' emotional distress is an interesting phenomenon that should be explored. This study therefore examined the impact of physical function limitation on FCGs' role conflict and role strain.

HF patient age. Patients' characteristics also influence caregiver role conflict and role strain (Archbold et al., 1990; Albert et al., 2010). Studies reveal consistent findings that a patient's age has been associated with negative outcomes of care, such as subjective burden, impact on schedule, role conflict or overload, depression, and mood disturbance (Albert et al.; Haley et al., 2003; Stenberg et al., 2008). However, there are few studies investigating the association between HF patients' age and FCGs' perceived role conflict and role strain.

Many studies have also shown that older chronically ill patients developed more physical disabilities than younger patients (Albert et al., 2010; Heo et al., 2009). In particular, older HF patients report higher levels of dependence on FCGs than younger HF patients. Some studies have shown that chronically disabled patients with high levels of dependence require difficult and time consuming care from FCGs, causing them to experience role conflict and role strain (Maclean, Glynn, & Ansara, 2004; Rohrbaugh et al., 2002; Yang et al., 2008).

In summary, evidence shows that there is a relationship between patient age and FCG emotional distress (Rohrbaugh et al., 2002; Schumacher et al., 2008). Numerous studies have examined chronically ill patients and how age affects the physical and emotional health of FCGs (DeGeest et al., 2003; Molloy et al., 2005). Studies show consistent results that older patients are more dependent on FCGs, leading these FCGs to experience negative outcomes. However, there have been few studies regarding the impact of HF patient age on caregiver role conflict and role strain. Therefore, patient age was included in this study in order to investigate the impact of this factor on caregiver role conflict and role strain.

HF patient gender. Patient gender has an impact on the physical disability of HF patients (Krumholz et al., 2004; Mcdonald et al., 2002). Female HF patients experience lower levels of heart function than male patients. Female HF patients frequently report higher levels of physical disability and emotional distress than male patients (Maraldi et al., 2006; Reigel et al, 2006; Ryan & Farrelly, 2009). FCGs may report high levels of role conflict and role strain when they care for female HF patients. However, some studies show that male HF patients report more behavioral problems and emotional distress than female patients (Cameron et al., 2002; Crouter, Bumpus, Head, & McHale, 2001). These findings may result from HF patients losing their jobs and social networks due to developing HF. In this case, FCGs who care for male HF patients may experience more role conflict and role strain than FCGs of female HF patients.

In summary, patient gender has an impact on difficult and time consuming HF caregiving tasks, which affects FCGs' physical and psychological health. FCGs of Thai male HF patients may report high levels of role conflict and role strain because they may provide more emotional care for these patients than FCGs of female HF patients. HF patient gender was therefore included in this study to examine its relationship with caregiver role conflict and role strain.

HF patient education. HF patients' varying education levels may influence levels of caregiver role conflict and role strain because well-educated HF patients may have more information and resources to manage their HF symptoms and may require less care from their caregivers (Barbareschi et al., 2011). In other words, well-educated HF patients may know how to or have more opportunities to search for information, support, and resources to meet their caregiving demands. This may cause FCGs of well-educated HF patients to experience low levels of role conflict and role strain.

In summary, earlier studies have shown that well-educated HF patients can more successfully manage their care tasks (such as medical and physical care), and that they may have lower dependence on FCGs. The degree of HF patient education was included in this study for determining its impact on the levels of caregiver role conflict and role strain.

Rural

In Thailand, a rural area refers to an area located outside of the local government municipality (Kaothien & Webster, 1998; The Royal Institute Thailand, 2009). Rural areas have a density of population that is not more than 10,000, and the major occupation is agriculture (Ministry of Interior of Thailand, 2009). Residents in rural areas live far away from public facilities and resources, and medical settings (Dedkhard, 2011). Additionally, residents may receive limited treatment and specialty care from health care settings in rural areas. Residents in rural areas may have to manage symptoms for HF patients when HF patients experience severe symptoms at home because they live far away from tertiary care hospitals. This may lead FCGs of HF patients to experience emotional distress from caring for HF patients. Therefore, rural FCGs and HF patients may have less access to medical support, which may lead them to experience problems caring for HF patients. In this study, a rural area was defined as an area located outside of an Amphore Moeng district, which is the capital city of each province. An Amphore Moeng district is identified as an urban area because residents in this area can access public facilities, tertiary health care services, health care resources, and social resources. In rural areas, there are primary care settings such as primary care units or district hospitals to provide primary and secondary care for residents. Primary care settings have limited resources such as HF specialties, physicians, nurses, and devices to care for HF patients. FCGs care for HF patients with limited medical support and information, which may lead them to experience more emotional distress, role conflict, and role strain.

In rural Thailand, incomes are generally lower and healthcare services generally less accessible than in urban areas (Dedkhard, 2011). Additionally, residents in rural areas are generally less-educated. Based on these facts, FCGs in rural areas may experience many problems such as low education, less access to health care services and health information, and financial problems; which may affect their health.

Rural residents in Thailand generally have more intense religious beliefs than urban residents (Sethabouppha & Kane, 2005). Although some rural residents live in remote areas, many rural residents may have more opportunities to participate in religious activities than urban residents. Rural FCGs may frequently participate in religious activities, which may help them to deal with their negative emotions and develop positive views of their caregiving role (Wallhagen & Yamamoto-Mitani, 2006; Yen, Teng, Huang, Ma, Lee, & Tseng, 2010; Vithayachockitikhun, 2006). In Thailand, the belief in the Buddhist Karma Rule is a major influence that motivates FCGs to care for HF patients. Thai Buddhists believe in the Karma Rule and that can affect the caregiver's decision to provide care for the patient (Jullamate et al., 2007; Sethabouppha & Kane, 2005). For example, in Thai culture, caring for parents is considered a duty of adult children because they will then receive good things and a sense of reward from society. If adult children do not care for their parents, they will be largely stigmatized by their neighbors. Therefore, if adult Thai caregivers of HF patients cannot successfully fulfill their caregiving role expectations, they tend to experience role conflict and role strain. Based on this fact, intensity of religious beliefs in rural residents is a significant factor that affects the decision of rural Thai FCGs to care for HF patients.

Religious Beliefs

Studies have shown that belief and practice in religious activities affects FCG health (Perce, Singer & Pringerson, 2006; Strawbridge et al., 2001). The results show that FCGs who frequently participate in religious activities report lower levels of emotional distress. Additionally, FCGs who had strong religious beliefs experienced a sense of mastery and selfesteem in regards to their role while caring for patients. Religion may help FCGs to have more emotional strength to overcome their caregiving situation (Murrey-Swank et al., 2006). Religious belief is identified as a caregiving resource that can reduce the negative effects of caregiving outcomes (Strawbridge et al., 2002; Wallhagen & Yamamoto-Mitani, 2006).

One study found that FCGs who had greater involvement in religion (attending religious activities, seeing belief as import, etc.) and received greater spiritual support (praying, watching or listening to religious media, etc.) reported high levels of a sense of mastery over their roles, self-esteem, and self-care (Murrey-Swank et al., 2006). Additionally, these FCGs report lower levels of depressive symptoms. Based on these study results, religion can play a major role in improving FCG health and can relieve emotional distresses, including role conflict and role strain.

Belief in the Buddhist Karma Rule

FCGs provide care for HF patients based on the Buddhist belief in the Karma Rule. This rule is based on the belief in cause and effect. If individuals provide good things to other people, they will receive happiness, merits, or good things in return. For example, FCGs care for HF patients because they believe that they will receive happiness, merits, and assistance when they are sick. Their main belief is to help other people so that they will receive happiness or merits in the next world.

One study found that FCGs who believe in the Buddhist Karma Rule report that they feel happy to care for ill relatives, and they tend to experience low levels of emotional distress such as stress, burden, anxiety, and depression (Yen et al., 2010). However, there are few studies that have specifically examined the belief in the Buddhist Karma Rule as a moderating factor of the relationship between caregiver role conflict and role strain in Thailand.

Religious Belief, Role Conflict, and Role Strain

Research has shown that religious beliefs affect levels of negative emotions, such as stress, depression, role conflict, and role strain (Perce, Singer, & Pringerson, 2006; Strawbridge et al., 2002). Additionally, FCGs who frequently are involved in religious activities report greater levels of a sense self-care and mastery over their roles (Murrey-Swank et al., 2006). FCGs who have greater participation in religious beliefs have more confidence to care for chronically ill patients. Specifically, these FCGs are able to deal with their emotional distress through frequent participation in religious activities. In other words, these FCGs can balance their multiple role obligations and they do not experience role conflict and role strain. In Thailand, the main religious belief is the belief in the Buddhist Karma Rule. This belief affects

Thai behaviors, including the decision to care for a patient. The influence of the belief in the Buddhist Karma Rule on role conflict and role strain will be discussed in the following section.

Belief in the Buddhist Karma Rule, Role Conflict, and Role Strain

The belief in the Buddhist Karma Rule is a significant factor motivating most FCGs to provide care for sick family members (Caffrey, 1992; Jullamate et al., 2007; Sethabouppha & Kane, 2005; Subgranon & Lund, 2000). FCGs may provide care for patients because of beliefs about the next life and morals. This is supported by studies in the U.S. that show positive perspectives of caregiving within a religious context (Murrey-Swang et al., 2006; Pearce, Singer, & Pringerson, 2006). These studies view caregiving as an important part of family life, and has offered it as a reason for lower role strain and/or burden in FCGs.

The belief in the Buddhist Karma Rule may reduce levels of role conflict and role strain in FCGs of HF patients because FCGs view caregiving as an opportunity to provide good to other people. These FCGs may receive happiness when caring for the patients, which can strengthen their confidence in their ability to complete a caregiver role along with other roles (Yen et al., 2011). One Thai study found that FCGs of stroke patients report low levels of role conflict and role strain (Prawtaku, 2006). Additionally, these FCGs believed that caring for the patients was a good way to help them receive both happiness and good things in return. Based on study results, the belief in the Buddhist Karma Rule may moderate levels of role conflict and role strain in FCGs of HF patients in rural Thailand.

In summary, few studies in Thailand show the moderating effects of the belief in the Buddhist Karma Rule on negative outcomes of caregiving. The belief in the Buddhist Karma Rule was included in this study to further examine its impact on emotional distress in FCGs of HF patients. The evidence showed that social support can affect the levels of negative emotions in FCGs (Kickul & Posig, 2011). The following section will review studies concerning the impact of social support on the relationship between role conflict and role strain.

Social Support

Many studies found that social support is related to psychological morbidity and mortality of FCGs (Anneshensel, 1992; Kressler & Macleod, 1985; Moen et al., 1992; Ross & Miroski, 1989; Hwang et al., 2011). Social support is noted as a significant factor for reducing negative psychological distress (Johnson, Stewart, Hall, Fredlund, & Theorell, 1996; Kickul, & Posig, 2001). FCGs who perceived low levels of social support may experience emotional distress because they may feel that they cannot complete caregiving, family, and social role obligations successfully. Social support in this study refers to the perceived levels of support FCGs receive from family, friends, and other people (Zimet, Dahlem, Zimet, & Farley, 1988). Evidence shows that perceived social support is associated with relieving the burden, strain, depression, and other negative outcomes associated with caregiving (Cox & Monk, 1996; Hwang et al., 2011; Kramer & Kipnis, 1995).

Level of perceived social support may be influenced by many factors such as religion, beliefs, culture, and values (Goode, 1960). FCGs who perceived high levels of support from family, friends, and other significant persons to care for HF patients may better deal with role conflict and role strain. The moderating effect of social support on the relationship between caregiver role conflict and role strain will be discussed in the following section.

Social Support, Role Conflict, and Role Strain

FCGs who perceived high levels of social support may succeed in dealing with role conflict and role strain (Stephen, Christianson, Vogel, & Wei, 2007) and lead them to be happy

with their caregiving role. Research shows that perceived social support positively affects FCG health by reducing stressors (Chappel & Reid, 2002; Kickul, & Posig, 2001), and helping to develop effective forms of coping (Izal, Montorio, Marquez, & Losada, 2005). Studies show that FCGs who perceived strong social support can deal with their caregiving responsibilities in positive ways (Hwang et al., 2011; Kickul & Posig).

Research showed that perceived social support has a positive impact on relieving FCG's psychological disorders and physical morbidity and mortality (Anesshensel, 1992; Kickul & Posig, 2001; Stephen et al., 2007). Some study results suggest that FCGs who perceived high levels of social support were less likely to experience role conflict (Kickul & Posig). Studies show that female FCGs perceived that they received more support than male FCGs (Vaux, 1985). On the other hand, many studies found that male FCGs perceived more support from colleagues and social networks than female FCGs (Noelker & Wallace, 1985). FCGs may experience a sense of role conflict and role strain because they have limited social support to cope with the caregiving situation.

In summary, social support has demonstrated a negative correlation to caregiver role conflict and role strain, which indicated that FCGs who perceived high levels of social support experience low levels of role conflict and role strain. FCGs sometimes perceive more support from their family members, friends, neighbors, and other significant persons to care for HF patients, which influences perceived role conflict and role strain.

Summary

Most caregiver research to date has examined various caregiver populations. Many studies focus on FCG and/or patient characteristics that influence the physical and psychological health of FCGs. However, the impacts of FCG and HF patient characteristics, caregiving

demands, the belief in the Buddhist Karma Rule, and social support on levels of role conflict and role strain have not been examined systematically. There is still a lack of research concerning the significant factors of caregiver role conflict and role strain in Thailand, particularly in FCGs who care for HF patients. This study was therefore conducted to fill the gap in knowledge regarding the influences leading to increased levels of role conflict and role strain in FCGs of HF patients in rural Thailand. Additionally, study results will contribute to scientific knowledge concerning how the belief in the Buddhist Karma Rule and social support may moderate the relationship between caregiver role conflict and role strain.

Chapter 4

Methods

The purpose of this chapter is to present the study research design. The study utilized primary data collected from an outpatient clinic in the Buddhasothorn Hospital in eastern Thailand. The study's research questions, measures, psychometric properties, design, sample, and data collection will be discussed. Plans for data analysis and instruments used in the study will be presented and discussed. Additionally, human subject issues will also be described.

Specific Aims

The specific aims of this study were to:

- Determine the relationship of rural Thai FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, and social support with caregiver role conflict and role strain.
- Examine the impact of perceptions of difficult and time consuming HF caregiving tasks on caregiver role conflict levels.
- 3) Test the belief in the Buddhist Karma Rule and social support as possible moderating influences on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks.

Methods

This study used a *cross-sectional descriptive design*. The influence of FCG and HF patient characteristics and difficult and time consuming HF caregiving tasks on levels of caregiver role conflict and role strain were investigated. Additionally, the potential moderating effects of the belief in the Buddhist Karma Rule and social support on the relationship between caregiver role conflict and role strain were examined.

Study Subjects

For *inclusion criteria*, the sample consisted of rural FCGs who: 1) provide the majority of medical, emotional, and physical care for HF patients with severe functional class II to IV as a family member (see Appendix B: the Recruitment Procedure); 2) serve as a primary caregiver providing care for HF patients at home for at least three months (see Appendix B: the Recruitment Procedure); 3) are 18 years of age or older; 4) demonstrate the ability to understand and speak the Thai language; and 5) live in a rural area in one of the five provinces of eastern Thailand (see Appendix: B the Recruitment Procedure).

Study participants of this proposed study were rural FCGs who cared for HF patients with functional class II to IV. These participants were recruited from an outpatient clinic in Buddhasothorn Hospital. These FCGs were family members of HF patients and lived in rural Thailand.

The *exclusion criteria* included FCGs who did not meet the inclusion criteria. For example, an FCG who was a nonresident of a rural area in one of the five provinces of eastern Thailand, under 18 years old, a paid caregiver, or provided care for HF patients for less than three months were excluded from the study. Additionally, FCGs were excluded from the study in the event of an HF patient death.

Design for Sampling

Recruiting subjects. Based on the sample size power calculation described later in this chapter, a convenience sample of 139 or more FCGs for HF patients with functional class II to IV were enrolled from an outpatient clinic in the Buddhasothorn Hospital of eastern Thailand. Clinic nurses screened HF patients with functional class II to IV by reviewing medical records and using the recruitment procedure. The recruitment procedure that was developed by the PI is a

document that was used to train clinic nurses about the recruitment criteria of study participants. HF patients who were diagnosed as functional class II to IV based on medical records were evaluated on the severity of their HF symptoms by the clinic nurse. Clinic nurses used the HF functional class criteria in the recruitment procedure sheet to evaluate the functional class of HF patients.

Functional class II HF patients have slight limitation of physical activity, and they experience fatigue, palpitation, and dyspnea when performing ordinary activities. Functional class III HF patients have marked limitation of physical activity, and they experience fatigue, palpitation, and dyspnea when performing less than ordinary activities, such as sitting or walking. HF patients with functional class IV are unable to carry out any physical activity without discomfort. If HF patients met the criteria, clinic nurses would ask HF patients and their FCGs about whether or not they lived in a rural area. FCGs who met the criteria were identified to the PI by clinic nurses.

HF patients with functional class II to IV were first identified by clinic nurses from the outpatient clinic of Buddhasothorn Hospital utilizing medical records and evaluation of patient symptoms using the Recruitment Procedure. After that, FCGs of those HF patients were approached by the PI if they were willing to speak. These FCGs needed to have been caring for their HF patients for at least three months in one of the five provinces of rural eastern Thailand (Chonburi, Rayong, Chachoengsao, Prachinburi, and Srakeaw).

Clinic nurses at the outpatient clinic of Buddhasothorn Hospital had already been trained in the principles of research ethics for the protection of human research subjects, and they had completed International Review Board (IRB) training as a requirement for new nurses at this hospital. The PI trained the clinic nurses with regard to the study objectives, recruitment criteria, data collection process, and subjects' rights as FCGs. The PI began to enroll eligible FCGs after receiving IRB approval from Michigan State University (MSU) and Buddhasothorn Hospital. A convenient sample of 139 or more FCGs of HF patients with functional class II to IV was identified by the clinic nurses from the outpatient clinic of Buddhasothorn Hospital. All eligible FCG subjects who met inclusion criteria and had indicated interest in the study were approached by the PI to obtain more information. Rural Thai FCGs were informed of the purposes of the study and provided the explanation and consent form (see Appendix C) by the PI. If FCGs could not read the Thai language, the PI offered to read the documents for the study subjects. If approved by the MSU and Buddhasothorn Hospital IRBs, a verbal consent and waiver of the document of written consent was applied to study subjects who could not write in the Thai language but were willing to participate in the study.

Data collection. The PI enrolled study participants after MSU and the Buddhasothorn Hospital IRB committees had both approved the study (see Appendix D and E). The PI began to collect data after receiving consent from eligible FCGs at the Buddhasothorn Hospital. A convenience sample of at least 139 rural Thai FCGs of HF patients were first identified by clinic nurses from the outpatient clinic of Buddhasothorn Hospital. The PI contacted the head nurse of the outpatient clinic at Buddhasothorn Hospital for the assistance of the staff nurses.

Clinic nurses introduced all eligible HF patients and FCGs who met the inclusion criteria to the PI. FCGs were approached by the PI. The PI explained the study objectives, the data collection process, and the subjects' rights to those who met inclusion criteria and volunteered to participate in the study. FCGs made the decision to sign the consent form. The eligible FCGs were informed and assured that their data and consent forms would be kept confidential at all times. The study participants were allowed to withdraw from the study at any time.

After their informed consent was obtained, the PI began to collect study data. No potential study participant refused to participate in this study. Each study subject was provided with a questionnaire. Study subjects completed the questionnaire alone in a private room at the outpatient clinic. The completion of the questionnaire was estimated to take 37 minutes. Questionnaires were returned to the PI for confidential data management. The strategy to recruit and collect data is summarized in Figure 2.

Data management/data entry. Study questionnaires and consent forms were kept in a locked cabinet in the PI's home in Thailand. When the PI came back to the U.S., the data was kept in a locked cabinet in the fourth floor of West Fee Hall Building, College of Nursing, MSU. All collected data was entered into SPSS 18 (PASW) by the PI (IBM, 2010). All questionnaires were coded with a participant number, and identifying information was kept separately. The FCG roster was developed and confidentially held by the PI in the locked cabinet.

The original questionnaires were kept in a locked cabinet in the PI's home in Thailand. The PI took the FCG consent forms, electronic data files, and FCG rosters to the U.S. Data was stored in the PI's laptop with password protection, and this laptop was kept in the PI's backpack when traveling to the U.S. FCG consent forms were kept in a carry-on while traveling to the U.S. Study data, FCG consent forms, and the FCG roster were kept separate to secure confidentiality. Additionally, data was stored in a password-protected external hard drive for back up. In the U.S., the study data will be kept in a password-protected computer and a locked cabinet on the fourth floor in West Fee Hall at MSU for three years (2014) after the close of the study. Only the appointed researchers, their respected institutions, and the IRB at MSU have access to the study data.

Additionally, a codebook was developed by the PI with links to the study variables and variable names in SPSS 18 (PASW). Study questionnaires had an identification number, which was in accordance with the subject ID variables in SPSS 18 (PASW). This data codebook was used throughout the study process. Missing data was managed by using the code for missing data, which eliminated misinterpretation of data while analyzing and interpreting. The PI and statistician research team member conducted random checks to test the accuracy of collected study data.

Study setting. This study was conducted in rural Thailand. A rural area refers to an area located outside the control of local government or municipal government (Ministry of Interior Thailand, 2009). Population in a rural area is less than 10,000, and the major occupation is agriculture. All study participants in this study were rural Thai FCGs of HF patients.

This study was conducted at a hospital in eastern Thailand. Eastern Thailand is comprised of seven provinces that include Chonburi, Rayong, Chachoengsao, Prachinburi, Chantaburi, Trat, and Srakaew. Each province has five to ten districts and each district has one public hospital. These district hospitals provide primary and secondary care for residents in the district. These district hospitals had limited ability to provide tertiary care for HF patients because they did not specialize in HF, and had no echocardiogram devices or programs to care for HF patients with functional class II to IV. The district hospitals generally transfer HF patients with functional class II to IV to Buddhasothorn Hospital located in the Chachoengsao province.

The study setting was at the Buddhasothorn Hospital, the 500-bed tertiary care hospital located in eastern Thailand. This hospital cares for residents who live in five provinces of eastern Thailand (Chonburi, Rayong, Chachoengsao, Prachinburi, and Srakaew). Two provinces are excluded because their residents rarely use Buddhasothorn Hospital services due to the long distance to the hospital. Buddhasothorn Hospital has the resources to care for HF patients, particularly at the progressive stage. After transferred HF patients are stabilized, they will be transferred back to district hospitals or returned home. HF patients have to schedule at least one follow-up appointment with Buddhasothorn Hospital.

The subjects recruited for this study from the outpatient clinic in Buddhasothorn Hospital were representative of FCGs in five provinces of eastern Thailand. In this study, samples were drawn by the PI from an outpatient clinic of the tertiary care hospital in the Chachoengsao province of eastern Thailand. After the MSU and Buddhasothorn Hospital IRB committee had both approved the study, the PI began to collect study data in Buddhasothorn Hospital. The process for collecting data is summarized in Figure 2.

Sample size/power analysis. The sample size was calculated by applying G*Power3.1 statistical analysis software (Faul, Erdfelder, Buchner, & Lang, 2009; Faul & Franz, 2010). Eleven FCG variables (age, gender, education, relationship to patient, household income, employment status, number of roles, number of hours of care, physical function, social support, and belief in the Buddhist Karma Rule), three HF patient variables (age, gender, and education), and difficult and time consuming HF caregiving tasks are included in the calculated program.

The sample size of 139 or more FCGs was calculated to be appropriate for testing the relationship of 13 independent variables and two moderating factors on role conflict and role strain. Testing two moderating factors requires only 69 study subjects. Based on this fact, the sample size of 139 FCGs therefore provided acceptable power of analysis. As a result, a minimum sample size of 139 or more FCGs provided an acceptable .80 level of statistical power to detect differences between major subgroups of the FCG sample. This sample size provided an acceptable effect size ($f^2 = 0.15$), and the results reflect the significant influences of both FCGs

and HF patients on levels of caregiver role conflict and role strain at a 0.05 significance level

(Faul, Erdfelder, Buchner, & Lang, 2009).





FCG and HF patient characteristics were considered likely significant influences on caregiver role conflict and role strain. Clinic nurses at an outpatient clinic of Buddhasothorn Hospital identified HF patients with functional class II to IV by the use of medical records and the evaluation of symptoms using the Recruitment Procedure (see Appendix B). The criteria to evaluate the functional class of HF patients was part of the recruitment procedure that was developed by the PI. The recruitment criteria explained what clinic nurses should do while screening FCGs into the study. The recruitment procedure included the strategy to recruit FCGs into the study following the inclusion criteria.

For the inclusion criteria, clinic nurses reviewed the medical records and evaluated the functional class of HF patients using the evaluation criteria in the recruitment procedure. The criteria was in accordance with the HF functional classification of the New York Heart Association (NYHA). Clinic nurses asked FCGs using instructions in the recruitment procedure about whether they fit the inclusion criteria regarding FCG age, residence, length of care of the HF patient, and ability to understand the Thai language. If FCGs met the criteria, clinic nurses would indicate them to the PI.

Independent variables included FCG characteristics (age, gender, education, household income, employment status, relationship to patient, number of roles, number of hours of care, reasons to provide care for a patient, main reason to provide care, and physical function), HF patient characteristics (age, gender, and education), the belief in the Buddhist Karma Rule, participation in Buddhist activities, and social support. The dependent variables for the study were caregiver role conflict and role strain. The measures that were used to examine independent and dependent variables are summarized in Table 1. A *demographic questionnaire* was used by the PI to gather information about FCG and HF patient characteristics, participation in Buddhist Karma Rule (see Appendix A). The following sections will discuss measurements and scoring for each variable.

Table 1

Study Variables, Instruments, and Internal Consistency Reliability Statistics for Study Instruments

		Number		Estimated Time
Measures	Variable	of Items	α	to Complete
FCG and HF Patient Characteristics				
FCG characteristics	Predictor	15		5 minutes
(Age, gender, education, religion,				
relationship to patient, household income,				
number of role, number of hours of care,				
effects of caregiver role on work role,				
reasons to care for a patient, and other				
persons help to care for patients)				
HF patient characteristics	Predictor	3		2 minutes
(Age, gender, education)				
Belief in Buddhist Karma Rule and	Predictor	2		2 minutes
participation in Buddhist activities				
Functional class of HF symptoms	Predictor	1		1 minute
Caregiver Physical Function				
The Physical Functioning Subscale of	Predictor	10	.92	3 minutes
Short-Form Health Survey (PF)				
Caregiver Tasks				
The Oberst Caregiver Burden Scale	Predictor			15 minutes
(OCBS)				
Difficulty Subscale		15	.88	
Medical care		3	.67	
Physical care		10	.87	
Emotional care		2	.80	
Time Consuming Subscale		15	.89	
Medical care		3	.61	
Physical care		10	.86	
Emotional care		2	.78	
Caregiver Social Support				
The Multidimensional Scales of Perceived	Moderator	12	.96	3 minutes
Social Support (MSPSS)				
Caregiver Role Conflict				
The Role Conflict Scale (RCS)	Outcome	14	.95	3 minutes
Caregiver Role Strain				
The Global Role Strain Scale (GBS)	Outcome	7	.81	3 minutes
Total		79		37 minutes
		-		

Note. α = Chronbach's alpha.

Independent variables. *Age.* An FCG reported their age and the HF patients' age in years in the questionnaire. HF patient and FCG age was analyzed as a continuous variable.

Gender. Each FCG reported their gender and the HF patients' gender as male or female in the questionnaire. Gender of FCGs and HF patients was scored as 1 for male and 2 for female in the SPSS. Gender was analyzed as a categorical variable for analysis.

Education. FCG and HF patients' education was measured as total years of education completed. Each FCG indicated their level of education and the HF patients' level of education in the questionnaire. HF patient and FCG education was treated and evaluated as a continuous variable.

Employment status. Employment status was reported by FCGs. FCGs were asked to choose a category that fit their employment status. Categories included 1= not working, 2= working part-time, 3= working full-time, 4= retired, and other (please specify). Employment status was treated as a categorical variable for analysis.

Effect of a caregiving role on work role. Each FCG was asked to check a box rating the effects of a caregiving role on their work role. The categories for effects of a caregiver role on work role were comprised of 1=no effect on work hours, 2= reduced work hours, 3= changed workplace, etc. Effects of a caregiving role on work role were analyzed as a categorical variable.

Relationship to the patient. FCGs were asked to report their relationship to the patient by checking one item from a category, which included 1= spouse, 2= daughter/son, 3= grandmother/grandfather, etc. Relationship to the patient was treated as a categorical variable for analysis.

Household income. Household income was measured by asking FCGs to select from a category of total household income per month. Categories of household income included 1=0-

2000 Baht (\$0–69), 2= 2001–5000 Baht (\$70–169), 3=5001–10000 Baht (\$170–333), etc. Household income was coded and treated as a categorical variable.

Number of roles. Each FCG was asked to select the number of roles they performed, including 1= spouse, 2= son/daughter, 3= parent, 4= grandfather/grandmother, 5= grandson/granddaughter, 6= worker, and 7= other roles. Number of roles were coded and treated as a categorical variable.

Number of hours of care. Number of hours of care was measured by asking the FCG to write down the total hours of care that they provided for an HF patient per day. Number of hours of medical care, physical care, and emotional care were evaluated as a continuous variable.

Other persons who help to care for a patient. FCGs checked boxes in a category that asked about other persons who helped them to care for an HF patient, including 1= family, 2= friends, 3= colleagues, etc. FCGs could check more than one box. Categories of other persons who helped FCGs to care for a patient were coded and treated as a categorical variable.

Religion. Religion was measured by asking FCGs to check a box in a category that determined what their religion was. Categories of caregiver religion included 1= Buddhism, 2= Islam, 3= Christianity, and 4= other (please specify). Caregiver religion was coded as a dummy variable. Caregiver religion was treated as a categorical variable.

Reasons to provide care for a heart failure patient. FCGs were asked to select an answer regarding their reasons to care for HF patients. Categories of reasons to provide care for an HF patient included 1= duty of family member, 2= to receive good things in return, 3= care for loved one, and 4= others (please specify). FCGs could check more than one reason. Reasons to provide care for an HF patient were treated as a continuous variable.
Main reason to provide care for a heart failure patient. FCGs were asked to provide a main reason for providing care for an HF patient. Reasons to provide care for the patient were categorized as 1= duty, 2= to receive good things in return, 3= care for loved one, and 4= other. Main reason to provide care for an HF patient was treated as a categorical variable.

Belief in Buddhist Karma Rule. FCGs were asked to rate their level of belief in the Buddhist Karma Rule by answering questions about the intensity of this belief while caring for an HF patient. This question involved asking about to what extent FCGs hoped to receive happiness, social recognition, recognition for a good deed in this life or the next, and assistance in return. Response ranged from a great amount (5) to none (1). Scores ranged from four to 20. The total intensity scores of the belief in the Buddhist Karma Rule for each item were summed to create a total score of the belief in the Buddhist Karma Rule. The higher scores refer to the greater levels of belief in the Buddhist Karma Rule. Intensity of the belief in the Buddhist Karma Rule was treated as a continuous variable for analysis.

Participation in Buddhist activities. Participation in Buddhist activities was measured by asking FCGs to select answers regarding the frequency of participation in Buddhist activities and included praying, giving food to monks, going to temple, doing meditation, and making a donation. Scores of each item ranged from one to five. A total score of participation in Buddhist activities was developed by summing up scores for each item. The composite score ranged from five to 25. The higher scores reflect more frequency in participation in Buddhist activities. Participation in Buddhist activities was treated as a continuous variable.

Functional class of a heart failure patient based on caregiver perception. The functional class of HF patients was measured by the severity of HF symptoms based on FCGs' perspectives using four questions about HF patient physical activity limitation. Responses were

categorized as 1= yes, and 2= no. Each question had specific direction for functional class II to IV so that FCGs had to carefully follow the instructions. Each FCG was asked to check a box regarding HF patient functional class based on FCG perception. Categories of response included functional class I, II, III, and IV. HF functional class II was coded as 1, III as 2, and IV as 3. The functional class of an HF patient was treated as a categorical variable.

Caregiver physical function. FCG physical function was measured using the Thaitranslated ten-item *Physical Functioning of Short-Form Health Survey (PF)* (Ware & Sherbourne, 1992). Physical function of an FCG is operationally defined as the level of ability to do daily activities such as climbing stairs, lifting objects, playing sports, and walking. FCGs were asked to rate their physical functions as "*limited a lot (0), limited a little (50) and not limited at all (100)*." The score of each question ranges from zero to 100 (see Appendix A). All scores were summed and divided by ten. A total score of caregiver physical function ranged from zero to 100. Average scores of 50 and over refer to high levels of physical function (Ware, Osinskim, Bayliss, Mchorney, Roger, & Aczekm, 1995).

The PF is evidenced for content and constructing validity (Ware & Sherbourne, 1992). Earlier studies reported acceptable to high PF subscale reliability (Eshaghi, Ramezani, Shahsanaee, & Pooya, 2006; Lim, Seubsman, & Sleigh, 2008; Li, Wang, & Shen, 2003). The PF subscale has been translated to the Thai version, and its reliability has been shown to be acceptable (Lim, Seubsman, & Sleigh, 2008). The PF was used to measure levels of physical function in FCGs of HF patients in rural eastern Thailand. A Cronbach's alpha of the PF subscale for this study was determined to be .91, indicating high internal consistency. This is consistent with the reported reliability of the instrument. Physical function of FCGs was treated as a continuous variable. *HF caregiving tasks*. Difficult and time consuming HF caregiving tasks were measured using the *Oberst Caregiving Burden Scale (OCBS)* (Carey et al., 1991; Oberst et al., 1989). FCGs were asked to rate levels of difficult and time consuming HF caregiving tasks, including medical, emotional, and physical tasks (see Appendix A). The OCBS includes 15 items. The original OCBS task categories include medical and personal care tasks, emotional and behavioral care tasks, financial tasks, communication, and talking with health care professionals (Oberst et al., 1989; Bakas et al., 2006; Pressler et al., 2009). The OCBS is evidenced for good reliability, and content validity (Bakas & Bungerner, 2002; Bakas et al., 2006; Carey et al., 1991; Oberst et al., 1989. The OCBS is translated into the Thai language by Boonluk (2005). The reliability of the Thai version of the OCBS was acceptable (Boonluk, 2005).

In this study, the categories of caregiving tasks in the OCBS was modified and labeled by the PI. Three categories of HF caregiving tasks include medical tasks (question one, five, and 15), physical tasks (question two, three, six, seven, eight, nine, ten, 12, 13, and 14), and emotional care tasks (four and 11).

Therefore, HF caregiving tasks can be operationally defined as the assistance given to HF patients with medical care (giving medications, observing symptoms, etc.), emotional care (being there for the patient), and physical care (mobility, eating, bathing, etc.). For medical care tasks, FCGs were asked to rate their difficulty and time consumption in completing medical administration, monitoring symptoms, and talking with health professionals.

With regard to physical care tasks, FCGs rated their perception regarding difficulty and time consuming tasks when caring for HF patients such as personal care, finance management, housework, transportation, and communication. Regarding emotional care tasks, FCGs were asked to report levels of difficult and time consuming tasks when providing emotional support and managing emotional problems. The Cronbach's alpha of three subscales of the Thai version that include medical, physical, and emotional tasks was evaluated in this study.

Difficult caregiving tasks. For difficult tasks, FCGs rated their perceived levels of difficulty in medical, physical, and emotional caregiving tasks. Five difficulty response categories range from not difficult (1) to extremely difficult (5). Scoring of difficult caregiving tasks was done by summing raw scores of 15 items to create a total score for difficult caregiving tasks (Bakas et al., 2006). A total score ranged from 15 to 75. The difficult caregiving tasks scale had no cut off scores. Higher scores referred to high levels of difficulty in completing caregiving tasks.

The Cronbach's alpha of three subscales of difficult caregiving tasks for the Thai version in this study were .68 (Medical Care Subscale), .80 (Physical Care Subscale), and .89 (Emotional Care Subscale). Physical and medical subscales were of acceptable reliability but medical subscale had low reliability. The Thai version of the medical subscale should be revised before using in future research. Reliability of the total 15 items of difficult caregiving tasks was .89, indicating moderate reliability. This is consistent with the reliability report of the instrument (Bakas et al., 2006, Boonluk, 2005). Levels of difficult caregiving tasks were treated as a continuous variable for analysis.

Time consuming caregiving tasks. With regard to time consuming tasks, FCGs rated their perceived amount of time spent on medical, physical, and emotional care tasks. Response categories of time consuming tasks range from none (1) to a great amount (5). Higher scores are perceived as more difficult or time consuming. Total scores ranged from 15 to 75. The time consuming caregiving tasks scale had no cut off scores. Higher scores represent more time spent on caregiving tasks or difficulty with caregiving tasks.

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Scoring of time consuming caregiving tasks was done with totally raw scores (15 items). Higher scores represent more time spent on caregiving tasks. The Cronbach's alpha of three subscales of time consuming caregiving tasks determined in this study was .61 (Medical Care Subscale), .78 (Physical Care Subscale), and .83 (Emotional Care Subscale). Reliability of physical and emotional subscales was acceptable but the medical subscale was low. Like the medical subscale in the difficult caregiving tasks scale, the medical care subscale should be revised before use in future research. Reliability of the total 15 items of time consuming caregiving tasks in this study was .88. These alphas are consistent with the reported reliability instrument. Levels of time consuming caregiving tasks were treated as a continuous variable for analysis.

Social support. Caregiver social support was measured using the Thai-translated *Multidimensional Scales of Perceived Social Support (MSPSS)* (see Appendix A). Social support is operationally defined as the assistance from family, friends, and other significant persons to help FCGs when needed. The MSPSS was developed by Zimet and colleagues in 1988. The MSPSS contains 12 items with three subscales: support from family, support from friends, and support from other significant people. Questions in the MSPSS provide assessment of three major sources of support using the seven-point Likert scale (1 = very strongly disagree to 7 = very strongly agree). The MSPSS showed acceptable levels of reliability (Canty-Mitchell & Zimet, 2000). The MSPSS demonstrated adequate levels of content validity (Cheng & Chan, 2004). The MSPSS has already been translated into the Thai language by Wongpakaran and colleagues (Wongpakaran, Wongpakaran, & Ruktrakul, 2011). The report Cronbach's alpha of the Thai-translated MSPSS was .87 for patient group and .91 for non-patient group, indicating high reliability (Wongpakaran, Wongpakaran, & Ruktrakul).

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A total social support score was created by summing raw scores of 12 items of the MSPSS together. Composited scores ranged from 12 to 84. The MSPSS has no cut off scores. Higher scores represent greater social support that FCGs receive from families, friends, other and significant persons. The Cronbach's alpha of the Thai-translated MSPSS in this study was .93, reflecting high internal consistency that was consistent with the report reliability of the instrument (Wongpakaran, Wongpakaran, & Ruktrakul, 2011). Caregiver social support was treated as a continuous variable.

Dependent variables. *Caregiver role conflict.* The level of FCGs' role conflict was measured using the Thai-translated *Role Conflict Subscale (RCS)* of the Role Strain Scale developed by Archbold and colleagues (1990). Caregiver role conflict is operationally defined as demands associated with the caregiving role interfering with the FCG's ability to satisfy the demands of other roles (Archbold et al., 1990; Hecht, 2001). The RCS contains 14 items using a five-point scale (0 = not at all to 4 = a great deal) (see Appendix A). The RCS can be administered by self-report. The RCS has been translated into a Thai version. Its reliability for Thai and English version has been shown to be acceptable in past studies (Archbold et al., 1990; Netchang, 2002).

FCGs' role conflict raw scores were determined by summing all 14 items of the RCS to create a total caregiver role conflict score. The RCS has no cut off scores. A total score ranged from zero to 56 with higher scores reflecting higher levels of perceived role conflict. Some FCGs answered "this role does not apply" in some items of the RCS such as student role and grandmother/grandfather because they did not perform these roles. These items were imputed by replacing the mean score of each item. Cronbach alpha of the RCS in this study was .97. Caregiver role conflict was treated as a continuous variable for analysis.

Caregiver role strain. Caregiver role strain was defined as the subjective experience of an FCG, including all senses of confinement, difficulty, and stress experienced while performing a caregiving role along with other role obligations (Archbold et al., 1990). The extent of caregiver role strain for this study was measured by using the Thai-translated *Global Role Strain Scale (GRS)* originally developed by Archbold and colleagues (1990). FCGs were asked to respond to seven questions about their stress levels and feelings of strain associated with their roles as an FCG (see Appendix A). Responses ranged from not at all or never (0) to very much or a lot (4). The GRS has no cut off scores. A total score ranged from zero to 28, with higher scores indicating that the FCG was experiencing a great deal of stress in performing his or her caregiving role. The GRS is evidenced for content and constructs validity (Archbold et al., 1990). The reported Cronbach's alpha for this scale Thai and English version was .72 to .84 (Archbold et al., 1990; Netchang, 2002).

A total score of caregiver role strain was developed by summing raw scores of seven items of role strain together. The raw scores of item 7 of the role strain were reversed before summing score to create a total score of caregiver role strain. Scores can range from zero to 28, with higher scores indicating that the FCG was experiencing a great deal of stress in performing his/her caregiving role. The reported Cronbach's alpha for this scale in this study was .92, indicating high reliability. Caregiver role strain was treated as a continuous variable for analysis.

Instrument Reliability

Study instrument reliabilities are summarized in Table 1. In this study, most study instruments, which included social support, physical function, role conflict, and role strain; showed high internal consistency ($\alpha = .80-.96$). Cronbach's alpha of the time consuming caregiving tasks scale was .88. The emotional care subscale of time consuming caregiving tasks

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showed acceptable reliability ($\alpha = .73$). The difficult caregiving tasks scale reported Cronbach's alpha of .89. The medical care subscale of both time consuming and difficult caregiving tasks showed low reliability ($\alpha = .61-.67$). The medical subscale included three items that have affected the reliability of this instrument.

The original version of time consuming and difficult caregiving tasks was used as an unidimensional scale. For this study, 15 items of the Thai-translated OCBS (time consuming and difficult caregiving tasks scale) were separated to three subscales and these three subscales were determined for their internal consistency separately (see Table 2). The results showed that the physical and emotional subscale of both time consuming and difficult caregiving tasks showed high internal consistency.

For medical care subscale, reliability of both time consuming and difficult caregiving tasks subscales were low. This may result from the medical subscale having only three items, which may affect the reliability of this subscale. In addition, this study used the medical scale that was already translated into Thai. Some questions in the Thai version of the medical subscale may be difficult to interpret by FCGs, which may cause Thai FCGs to misunderstand the questions. For example, question one is about the medical care that FCGs provide to an HF patient. The question may not specify a specific medical care task done for HF patients, which may lead FCGs to misinterpret it. The medical care subscale in the Thai version should be revised before use in future research.

Approach to Statistical Analysis

Data was first analyzed by SPSS 18 (PASW) software for Windows (IBM SPSS Statistics, 2010). Descriptive data of FCGs and HF patients included categorical and continuous data. Categorical data was described using frequency, mean, range, standard deviations, and percentage. Continuous data was explained using mean, range, and standard deviation. The functional classes of HF patients were grouped (functional class II, III, and IV) based on caregiver perception about severity of the patients' symptoms. The minimal level of statistical significance for this study was set at p < .05.

Hypotheses

1) Rural Thai FCG characteristics (age, gender, education, relationship to patient, household income, employment status, number of roles, number of hours of care, and physical function) and HF patient characteristics (age, gender, and education) would significantly influence caregiver role conflict.

2) Highly difficult and time consuming tasks would significantly contribute to high levels of caregiver role conflict.

3) Higher levels of social support or the belief in the Buddhist Karma Rule would significantly moderate levels of caregiver role conflict and role strain.

Analysis Plan for Specific Aim One

To determine the relationship of FCG/ HF patient characteristics, and difficult and time consuming HF caregiving tasks to caregiver role conflict and role strain, Pearson's product moment correlation procedures were used to explore the bivariate relationships among these variables (Nunnally & Bernstien, 1994). After that, a multiple regression procedure was used in a backward technique to obtain the most parsimony and best fit model for exploring the impact of FCG and HF patient characteristics and difficult and time consuming HF caregiving tasks on role conflict and role strain. FCG and HF patient characteristics and difficult and time consuming HF caregiving tasks were included in the model as independent variables, and role conflict and role

strain were included as dependent variables. Independent variables that were not statistically significant with role conflict and role strain were excluded from the model.

For the cases where some factors showed a significant relationship to the dependent variable but no significant effect in the model, the bivariate correlation between this factor and other dependent variables were examined. This factor was refit in the model again with other factors that are affected significantly by its removal. A decision was made about which factor remained in the model based on how much variance was explained by a dependent variable and clinic sense.

Analysis Plan for Specific Aim Two

Regarding the impact of difficult and time consuming HF caregiving tasks on caregiver role conflict, multiple regression procedures were applied to identify this relationship (Moore & McCabe, 2006). The regression model was developed to examine the association and direction of the relationship between difficult and time consuming HF caregiving tasks and role conflict. Difficult and time consuming HF caregiving tasks and role conflict were incorporated into the regression model to determine the associations between them.

Analysis Plan for Specific Aim Three

Belief in the Buddhist Karma Rule and social support as possible moderating factors were examined by adjusting for difficult and time consuming HF caregiving tasks. The moderating effects of the belief in the Buddhist Karma Rule and social support on the relationship between caregiver role conflict and role strain were tested using general linear model procedures (Moore & McCabe, 2006). For example, the potential moderating effect of social support on the relationship between caregiver role conflict and role strain was determined by developing three general linear models for testing the relationship among three potential factors: social support, role conflict, and role strain. The three regression models examined the influence of (1) the main effect of social support on caregiver role conflict, (2) the main effect of caregiver role conflict on role strain, and (3) the interacting effects of caregiver role conflict and social support on caregiver role strain. The same procedure was repeated to test the moderating effect of the belief in the Buddhist Karma Rule on the relationship between role conflict and role strain.

The general linear process tested for interacting effects of caregiver role conflict and social support or the belief in the Buddhist Karma Rule on role strain. If the result of interacting effects was significant, it could be concluded that social support and the belief in the Buddhist Karma Rule were moderators of the relationship between caregiver role conflict and role strain.

Potential Difficulties & Limitations

This study had several limitations. First, the FCG subjects in this study self-reported their perceived role strain experiences and their caregiving experiences within the two weeks prior to completing the questionnaire, which might lead to recall bias (Raphael, 1987; Barry & Livingstone, 2006). Second, the study enrolled a limited convenience sample in Buddhasothorn Hospital, so these subjects might not be representative of all FCGs. Finally, the generalizability of the results of this study to other settings or nations might be limited.

Quality Control/Data Management

To ensure the quality and consistency of the collected data for this study, the following quality control and data management strategies were conducted throughout the study. With regard to *recruitment and enrollment procedure*, FCGs who met the criteria were identified by clinic nurses trained in human rights protection by the Buddhasothorn Hospital. The PI had contacted the director of nurses and head nurse of an outpatient clinic of the Buddhasothorn

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Hospital for assistance from the nursing staff. These nurses identified FCGs of HF patients who met the criteria and intended to participate in the study. Clinic nurses at the outpatient clinic of Buddhasothorn Hospital were instructed and trained in the process of recruitment, enrollment, and principles of subject protection. These nurses contacted the PI when they had problems recruiting study participants.

For *data management*, all study data and consent forms were stored in a locked cabinet at the PI's home in Thailand and the doctoral office in West Fee Hall at MSU. The software data file of study subjects was stored electronically in a computer with password protection and only the PI, Major Professor, and study statistician were allowed to access the data file.

The FCG roster was developed and confidentially held by the PI in the locked cabinet file. Each subject was identified with an anonymous study identification number using numbers from one to 139. The names of FCGs were never stated to other people. The identities of all enrolled FCGs remained anonymous throughout the study. The survey questionnaires and consent forms were secured in this manner and will be until all study reports and manuscripts have been completed.

All collected data was entered into SPSS 18 (PASW) by the PI. A codebook was developed with links to study variables and variable names in SPSS 18 (PASW). The study questionnaire had an identification number that corresponds to the subject ID variables in SPSS 18 (PASW). Random checks were conducted to ensure that data was entered completely and correctly by the PI.

Only designated study team members (the PI, Major Professor, and study statistician) were ever provided access to any study research data by the PI. No healthcare professionals at Buddhasothorn Hospital were ever capable of knowing which subjects consented to participate in the study unless told by the subject. The results of this study might be published or presented at professional meetings, but the identities of all research participants remain anonymous.

In terms of *data collection*, FCGs of HF patients were screened by clinic nurses using the recruitment procedure developed by the PI. After that, the PI contacted the FCGs and explained the purposes of the study and subjects' rights to them. If they wished to participate in the study, the PI provided the study packet to eligible FCGs. After FCGs signed the consent form, the PI provided a copy of this form to them. Only the PI provided the study packet and questionnaire to FCGs and FCGs completed the questionnaire in a private room at an outpatient clinic. Eligible FCGs who could not complete a questionnaire at an outpatient clinic were excluded from the study. The study participants were allowed to contact the PI if they had a problem answering the questions in the questionnaire. No one contacted the PI while completing a questionnaire. The questionnaires were returned to the PI for data management.

Protection of Human Subjects

This study was conducted by the PI, who has been trained in human-rights protection through MSU graduate seminars and nursing courses. The PI contacted the head nurse for assistance from the staff of nurses at the outpatient clinic of Buddhasothorn Hospital. The staff identified FCGs of HF patients who met the criteria and intended to participate in the study. Additionally, IRB staff at Buddhasothorn Hospital were instructed in the principles of studysubject protection. The research abstract (both the Thai and English version), application form, and additional documentation (such as the consent form, information sheet, and instruments) were also submitted to the Buddhasothorn IRB committee.

The eligible subjects were informed and assured that their data was kept confidential at all times. The PI began to enroll study subjects after the MSU and Buddhasothorn Hospital IRBs

approved the study. The PI provided the consent form (see Appendix B) to the FCGs. These FCGs were able to ask questions about the study before making a decision to sign the consent form. There were no health care professionals in the Buddhasothorn Hospital who were aware of the FCGs' decision. After the FCGs' informed consent was obtained, the enrolled FCGs completed the questionnaire in a private location at the outpatient clinic away from their HF patients. The completion of the questionnaire was estimated to take about 37 minutes. Questionnaires were returned to the PI and kept in a locked cabinet for confidential data management. The consent forms were stored in a locked cabinet in Thailand and the U.S.

Risk to Human Subjects

The health risks associated with this study were minimal since FCGs only needed to complete the questionnaire regarding their subjective experience concerning their caregiving responsibilities. FCGs were allowed to skip questions they were not comfortable answering. Additionally, FCGs could withdraw from the study at any time.

Adequacy of Protection against Risk

All eligible FCGs who met inclusion criteria were identified by clinic nurses. The PI explained the study objectives, the data collection process, and the subjects' rights to clinic nurses and FCGs who met the inclusion criteria and volunteered to participate in this study. The decision to participate in this study was entirely the participants' own. There were no participants who refused to participate in the study. The decision of study participants did not change the usual medical care HF patients receive at Buddhasothorn Hospital. None of the healthcare professionals at the Buddhasothorn Hospital knew whether participants decided to participate in this study.

The survey package was provided to enrolled participants. The package included all necessary information regarding the study facts and rights of study participants. Additionally, the study participants could ask the PI questions at any time, or they could directly contact the PI, Major Professor, or MSU IRB staff. The contact information of the PI, Major Professor, and MSU IRB staff in both Thailand and the U.S. was given to participants.

To obtain FCG *informed consent*, the PI began to enroll eligible FCGs after receiving IRB approval. Rural Thai FCGs were informed of the purposes of the study and provided the informed consent and information sheet. FCGs could ask questions regarding their rights and the study until they made a decision to participate. FCGs signed the consent form based on their own decision. There were no health care professionals in Buddhasothorn Hospital who knew about the FCGs' decisions. If FCGs could not read the Thai language, the PI offered to read the documents for study subjects. After FCGs signed the consent form, the PI provided a copy to them.

Chapter 5

Results

The purpose of this study was to examine the relationship of FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, and social support with caregiver role conflict and role strain in a sample of FCGs of HF patients. In addition, the impact of difficult and time consuming HF caregiving tasks on role conflict and role strain was examined. The belief in the Buddhist Karma Rule, participation in Buddhist activities, and social support; which were identified as possible moderating factors on the relationship between caregiver role conflict and role strain; were also examined. This study sought to investigate the following specific aims:

Specific Aims:

1) To determine the relationship of rural Thai FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, the belief in the Buddhist Karma Rule, and social support with caregiver role conflict and role strain.

2) To examine the impact of difficult and time consuming HF caregiving tasks on caregiver role conflict.

3) To test the belief in the Buddhist Karma Rule and social support as possible moderating influences on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks.

The following sections will present the results of this study. FCG and HF patient characteristics and descriptive analyses of independent and dependent variables will be presented. Study results with respect to specific aims will also be explained. Interpretation and discussion of the results and implications will be presented in chapter 6.

Table 2

Frequency and Percentage for FCG Characteristics (n = 144)

Characteristic	N	%	
Caregiver gender	Male	32	22.20
	Female	112	77.80
Caregiver relationship to	Grandson/granddaughter	18	12.50
the patient	Spouse	30	20.80
	Adult children	79	54.90
	Others (sister/brother, parent, etc.)	17	11.80
Household income	0–2000 Baht (\$0–69)	12	8.30
	2001–5000 Baht (\$70–142)	32	22.30
	5001–10000 Baht (\$143–285)	28	19.40
	10001–20000 Baht (\$286–571)	38	26.40
	20001 Baht and over (\$572 and over)	34	23.60
Employment status	Not working (working part-time and retired)	39	27.10
	Working full-time	105	72.90
Work effects due to a	Absence from work	34	23.60
caregiving role	Changed workplace	38	26.40
	No effect on work role	52	36.10
	Others (quit the job, etc.)	20	13.90
Number of roles	one role	16	11.10
caregiver occupied	two roles	45	31.30
	three roles	55	38.20
	four roles or more	28	19.50
Caregiver religion	Christianity	1	.70
	Islamic	8	5.60
	Buddhism	135	93.80

Sample

Once the MSU and Buddhasothorn Hospital IRBs approved the study (see Appendix D and E), a total of 145 FCGs of HF patients who met the inclusion criteria were enrolled into the study. There were no FCGs who refused to participate in the study. The PI collected data at an

outpatient clinic in Buddhasothorn Hospital. One hundred and forty-five study questionnaires were distributed to study participants. A total of 144 study questionnaires were returned to the PI. One questionnaire was not returned to the PI. Descriptive data of FCG and HF patient characteristics are summarized in Table 2, 3, 4, 5, and 7.

Table 3

Mean, SD, Minimum, and Maximum of HF Patient and FCG Characteristics (n = 144)

Characteristic	Mean	SD	Min	Max
Caregiver age (years)	46.31	14.01	19	90
Caregiver education (years)	7.88	5.15	0	19
Number of roles caregiver occupied based on relationship to the patient				
Adult children	2.68	1.01	1	5
Spouse	2.97	.96	2	5
Grandson/daughter	2.67	1.03	1	5
Sister/brother	2.83	.75	3	4
Number of roles caregiver occupied based on caregiver gender				
Male	2.50	.98	1	5
Female	2.40	.98	1	5
Number of roles caregiver occupied based				
18–40 vears	2.40	87	1	4
41-60 years	2.90	1.07	1	5
61–90 years	2.81	.81	1	3

Note. SD = standard deviation.

With regards to descriptive data of HF patients, the average age of HF patients was 68.28 years (SD = 15.07). The average years of education for patients' was 4.20 years (SD = 3.78), indicating that HF patients had education lower than primary school. The majority of FCGs' were female (77.80%, n = 112) (see Table 2). The average age of FCGs was 46.30 years (SD = 14.01). The average years of education for caregivers was 7.88 years (SD = 5.15, range = 0-19)

years), indicating that FCGs had education at primary school and higher (see Table 3).

Approximately 26% of household income was 10001–20000 Baht (\$286–571, \$1 = 30–35 Baht)

per month (n = 38), indicating that these FCGs were high-income people. Low-income people in

Thailand receive salaries of less than 2000 Baht per month (about \$55).

Table 4

Frequency and Percentage of Reasons to Provide Care for HF Patients, Help From Other Persons, and HF Functional Class (n = 144)

Characteristic	Variable	Ν	%
Main reason to provide care	Care for loved one	7	4.90
-	Receive good things in return	47	32.60
	Duty of family member	90	62.50
Number of reasons to provide care	One reason	47	32.50
	Two reasons	34	23.60
	Three reasons	63	43.90
Other persons who help to care for	Friend	20	13.90
patient	Family member	114	78.20
-	Others (neighbor,	10	7.90
	volunteer caregiver, etc.)		
HF functional class based on	Class II	62	43.10
perception of FCG	Class III	52	36.10
	Class IV	30	20.80

About 73% of FCGs were working full time (n = 105). Approximately 36% of FCGs (n = 52) reported that a caregiver role did not affect their work role. Almost 94% of FCGs were Buddhists (n = 135) (see Table 2). Table 3 shows that 38% of FCGs (n = 55) completed three family roles along with a caregiver role. Spouses performed the highest number of roles (mean = 2.97, SD = .96). The number of roles FCGs occupied based on gender and age was slightly different (see Table 3).

Table 5

Mean,	SD,	Minimum,	Maximum,	Number,	and T	otal .	Hours	of Care	Providea	l by I	FCGs f	for an	HF
Patien	t (n	= 144)											

Characteristic	Mean	SD	Min	Max
Number of medical care hours per day (hours)	1.98	1.40	.15	10
Number of physical care hours per day (hours)	5.38	4.85	.30	20
Number of emotional care hours per day (hours)	1.47	1.14	0	7
Total number of hours of care per day (hours)	8.83	6.96	.75	24
Total hours of care in relation to gender				
Male	9.70	6.77	.75	24
Female	8.58	6.25	2.45	23
Total hours of care in relation to relationship to patient				
Grandson/granddaughter	6.81	4.34	1.60	18
Spouse	10.58	7.13	.90	22
Adult children	8.79	6.38	2.30	24
Total hours of care in relation to caregiver age				
18–40 years	7.96	5.99	2.45	20
41–60 years	8.72	6.52	.75	22
61–90 years	11.49	6.38	1.6	23
Total hours of care in relation to patient age				
18–40 years	12.26	7.73	.75	18
41–60 years	8.96	7.31	.90	22
61–90 years	8.46	5.90	2.45	24

Note. *bold items indicate the highest number of hours of care; SD = standard deviation.

The main reason to provide care for an HF patient was the duty of the family member (62.5%, n = 90) (see Table 4). Approximately 50% of FCGs had three reasons for providing care for a patient. Other persons who helped FCGs care for a patient were predominantly family members (78.2%, n = 114). About 43% of HF patients' had functional class II, based on the perception of FCGs (n = 62). HF patients with functional class II experience some physical limitations when they perform ordinary activities. These patients may require more medical care

(drug administration, sodium control, etc.), physical care (daily activities, exercise, etc), and emotional care (stress or depression relief) from FCGs than HF patients with functional class I.

With regard to Table 5, the average number of hours of care for HF patients was 8.83 hours per day (SD = 6.36). The highest number of hours of care for an HF patient was in physical care (mean = 5.38, SD = 4.85). Based on FCGs' gender, male FCGs provided longer hours of care within a day than female FCGs (male = 9.70 hours (SD = 6.77) and female = 8.58 hours (SD = 6.25)). Spousal FCGs provided the most hours of care (10.58 hours, SD = 7.13) in comparison to the other relationship categories. Older HF patients (61–96 years old) required more hours of care than younger HF patients (18–40 and 41–60 years old). FCGs who were 40-years-old and under provided more hours of care per day than FCGs who were 41-years-old and older.

Table 6

		Difficult	Time consuming	
HF Functional	Number Hours	Caregiving Tasks	Caregiving Task	Physical Function
Class	of Care (hours)	(range = 15 - 75)	(range = 15 - 75)	(range = 0 - 100)
Class II	5.61 (4.43)	48.66 (6.68)	48.71 (8.82)	93.55 (12.82)
Class III	9.26 (5.51)	53.04 (8.97)	54.21 (8.28)	87.12 (22.02)
Class IV	14.74 (6.81)	57.27 (6.07)	56.10 (5.86)	87.03 (19.75)
$\mathbf{M}_{\mathbf{A}} \leftarrow \mathbf{O}_{\mathbf{A}}$		······································		· ··· · · · · · · · · · · · · · · · ·

The Average Number of Hours of Care, and Score of Physical Function, and Difficult and Time Consuming Caregiving Tasks Reported by FCGs

Note. Class II = HF patients with functional class two; Class III = HF patients with functional class three; Class IV = HF patients with functional class four.

In Table 6, the average score of time consuming caregiving tasks, difficult caregiving tasks, caregiver physical function, and number of hours of care of FCGs of HF patients with functional class II, III, and IV was summarized. FCGs reported that HF patients with functional class IV required more hours of care per day than HF patients with functional class II and III.

The average number hours of care for HF patients with functional class II was 5.6 hours per day (SD = 4.43), class III was 9.26 hours (SD = 5.51), and class IV was 14.74 hours (SD = 6.81).

FCGs of HF patients with functional class IV reported the highest average score of difficult caregiving tasks, which was 57.27 (SD = 6.07). FCGs in this study reported that caring for HF patients with functional class IV was more difficult than HF patients with functional class II and III. In the same way, FCGs of HF patients with functional class IV reported the highest average score of time consuming caregiving tasks at 56.10 (SD = 5.86), which indicated that providing care for HF patients with functional class IV was more time consuming than HF patients with functional class II and III. The average score of physical function of FCGs of HF patient with functional class II was 93.55, indicating that FCGs in this study reported their physical function was good.

In Table 7, the average score of the belief in the Buddhist Karma Rule was 14.23 (SD = 4.10). The average score of participation in Buddhist activities was 17.78 (SD = 4.38). The average composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities was 32.07 (SD = 6.20). The average score of caregiver physical function was 89.86 (SD = 18.24), indicating good physical function in FCGs. The average score of caregiver social support in Table 7 was 42.03 (SD = 18.16). The average score of time consuming caregiving tasks was 52.24 (SD = 8.90). The average score of difficult caregiving tasks was 52.03 (SD = 8.90). FCGs reported time consuming and difficult caregiving tasks as when providing care for HF patients with functional class IV. The average score of caregiver role conflict was 42.27 (SD = 10.40). The average score of caregiver role strain was 18.01 (SD = 5.96). Difficult and time consuming caregiving tasks, social support, role conflict, and role strain had no cut off scores. It

may be difficult to classify the levels of difficult caregiving tasks, time consuming caregiving

tasks, social support, role conflict, and role strain in FCGs.

Table 7

Mean, SD, Range, Minimum, and Maximum of Scores of Buddhist Belief; Time Consuming and Difficult Caregiving Tasks; Social Support; Physical Function; Role Conflict; and Role Strain of FCGs (n = 144)

Variable	Range	Mean	SD	Min	Max
Belief in the Buddhist Karma Rule*	4–20	14.23	4.10	4	20
Participation in Buddhist activities*	5–25	17.78	4.38	7	25
Composite score of belief in the Buddhist Karma Rule and participation in Buddhist activities*	9–45	32.01	6.20	17	45
Caregiver physical function**	0–100	89.86	18.24	10	100
Caregiver social support**	12-84	42.03	18.46	12	75
Caregiver role conflict***	0–56	42.27	10.40	13	56
Caregiver role strain***	0–28	18.01	5.96	0	28
Levels of time consuming caregiving tasks***	15–75	52.24	8.90	21	67
Levels of difficult caregiving tasks***	15-75	52.03	8.90	25	66

Note. *Higher scores refer to higher levels of the belief in the Buddhist Karma Rule and/or more frequency of religious participation; **Higher scores refer to good physical function of a caregiver or high levels of caregiver social support; ***Higher scores refer to higher levels of role conflict, role strain, time consuming caregiving tasks, or difficult caregiving tasks; SD = standard deviation.

Results and Analysis

Correlation between study variables. Correlation analysis was conducted to determine

if FCG and HF patient characteristics, difficult and time consuming caregiving tasks, the belief

in the Buddhist Karma Rule, participation in Buddhist activities, and caregiver social support

Table 8

Correlation Estimates of FCG and HF Patient Characteristics, Social Support, Belief in the Buddhist Karma Rule, Participation in Buddhist Activities, and Caregiver Role Conflict and Role Strain (n = 144)

	Patient age	Patient gender	Patient education	Caregiver age	Caregiver gender	Caregiver education	Relationship to the patient	Role Conflict	Role strain
Patient age	1	.178*	- .237*	051	.028	.208*	190*	296*	041
Patient gender		1	115	075	.000	.111	.022	.195*	025
Patient education			1	023	024	.179*	.052	.250*	.114
Caregiver age				1	067	494*	077	346*	119
Caregiver gender					1	.007	.110	.267*	.237*
Caregiver education						1	.053	.539*	.070
Relationship to patient							1	.082	004
Role conflict								1	036
Role Strain									1

Table 8 (cont'd)

	Household income	Employment status	Effect to work role	Number of role	Total hours of care	Caregiver religion	Reasons to provide care	Role Conflict	Role strain
Household income	1	036	138	137	162	,126	022	245*	240*
Employment status		1	.415*	.067	075	.018	020	106	115
Effect to work role			1	.140	.2178	.037	.045	.158	.113
Number of roles				1	.038	074	.073	.173*	.232*
Total number of hours of care					1	-024	025	.337*	.327*
Caregiver religion						1	032	.040	.033
Reasons to provide care							1	021	004
Role conflict								1	.706*
Role strain									1

Table 8 (cont'd)

	Other person who help to care for patient	HF functional class	Participation in Buddhist activities	Belief in the Buddhist Karma Rule	Time consuming caregiving tasks	Difficult caregiving tasks	Role conflict	Role strain
Other person who help to care for a patient	1	036	.066	.078	.194*	158	142	075
HF functional class		1	256*	.103	.347*	.373*	.340*	.360*
Participation in Buddhist activities			1	.197	301*	335*	363*	631*
Belief in the Buddhist Karma Rule				1	.042	.037	198*	220*
Time consuming caregiving tasks					1	.648*	.577*	.441*
Difficult Caregiving tasks						1	.664*	.577*
Role conflict							1	.706*
Role strain								1

Table 8 (cont'd)

	Caregiver physical function	Caregiver social support	Composited score of belief in the Buddhist Karma Rule and participation in Buddhist activities	Role conflict	Role strain
Caregiver physical function	1	.311*	.026	251*	319*
Caregiver social support		1	.497*	579*	710*
Composited score of Belief in the Buddhist Karma Rule and participation in Buddhist activities			1	301*	488*
Role conflict				1	.706*
Role strain					1
<i>Note</i> . * <i>p</i> < .05.					

were either positively or negatively related to levels of role conflict and role strain (see Table 8 for correlation results).

The results of correlation between independent variables and dependent variables showed that HF patient and FCG education, household income, participation in Buddhist activities, scores of FCG physical function, social support, and the belief in the Buddhist Karma Rule were negatively correlated with role conflict (r = -.219 to -.579). The largest negative correlation was between caregiver role conflict and caregiver social support (r = -.579). Caregiver age, number of roles caregiver occupied, number of hours of medical care, number of hours of physical care, number of hours of emotional care, HF patient functional class based on perception of FCGs, total number of hours of care, time consuming caregiving tasks, and difficult caregiving tasks were positively correlated with role conflict (r = .169 to .664). The largest positive correlation was between difficult caregiving tasks and role conflict (r = .664). FCG education, household income, participation in Buddhist activities, caregiver physical function, caregiver social support, and the belief in the Buddhist Karma Rule were negatively correlated with role strain (r = -.240 to -.710). The largest negative correlation was between caregiver social support (r = -.710).

FCG age, education, number of roles, number of hours of medical care, number of hours of physical care, number of hours of emotional care, HF patient physical function, total number of hours of care, time consuming caregiving tasks, difficult caregiving tasks, and role conflict were positively correlated with role strain (r = .167 to .706). The largest positive correlation was between role conflict and role strain (r = .706), indicating that role conflict and role strain had a close relationship to each other. Caregiver social support was negatively correlated with difficult and time consuming caregiving tasks, role conflict, and role strain (r = .179 to .710). The

highest correlation was between caregiver social support and role strain (r = -.710). These results indicated that FCGs who perceived more social support reported low levels of difficult caregiving tasks, time consuming caregiving tasks, role conflict, and role strain.

Results of specific aims. *Aim 1*: To determine the relationship of rural Thai FCGs/HF patient characteristics and difficult and time consuming HF caregiving tasks with caregiver role conflict and role strain.

A linear regression model using the backward elimination procedure was run to examine possible significant predictors of caregiver role conflict and role strain. Predictors of caregiver role conflict and role strain were selected based on two criteria. First, the correlation of all variables was conducted to examine whether selected independent variables were correlated with caregiver role conflict and role strain. Second, literature review shows evidence of the relationship between selected independent variables (FCG and HF patient characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support) and role conflict and role strain.

After that, the multiple regression procedure with backward technique was conducted. All independent variables were included in the model as independent variables. Role conflict and role strain were incorporated in the model as dependent variables. Each independent variable with the highest p value (not significant) was eliminated from the model. An independent variable that was removed from the model caused the smallest decrease in \mathbb{R}^2 . The removal of the independent variable process continued until achieving the final model. The final model included independent variables that were significantly correlated with a dependent variable. Additionally, the final model was parsimonious and had the largest \mathbb{R}^2 . With regard to role conflict outcome, multiple regression procedures with backwards technique were completed to reach the final model. The final model had an R = .742, R² = .552, F = 57.456, with a p < .001. The adjusted R square for the final model was .542, indicating that the model explains 54% of variance on role conflict outcome (see Table 9).

Caregiver gender, difficult caregiving tasks, and caregiver social support were significant predictors for role conflict. The results showed that female FCGs experienced higher levels of role conflict than male FCGs (p < .05). Additionally, FCGs who received more social support tended to experience lower levels of role strain than FCGs with lower levels of social support (p< .001). FCGs with high scores of difficult caregiving tasks were more likely to experience role conflict than FCGs with low scores of difficult caregiving tasks (p < .001).

Table 9

Coefficient for Final Linear Regression Model Indicating Significant Predictors of Caregiver Role Conflict

	Unstandardized	Std.	Standardized		
Variable	Beta	Error	Beta	t	р
Constant	15.856	5.107		3.105	.002
Caregiver gender	3.186	1.424	.128	2.238	.027*
Difficult caregiving tasks	.611	.075	.523	8.145	<.001***
Caregiver social support	187	.036	333	5.195	<.001***

Note. t = t distribution; Std. Error = standard error.

*p < .05, **p < .01, ***p < .001.

A linear regression model was developed to determine significant predictors of caregiver role strain. Multiple regression procedures with backward technique were completed to achieve the final model. The final model had an R = .837, R² = .700, F = 49.892, with a p < .001. The adjusted R square for the final model was .686, indicating that the model explained approximately 68% of variance on role strain.

Caregiver gender, HF functional class based on FCG perception, difficult caregiving tasks, participation in Buddhist activities, caregiver physical function, and caregiver social support were statistically significant with caregiver role strain (see Table 11). Regarding study results, female FCGs had higher levels of role strain than male FCGs (p = .002). FCGs with higher scores of difficult caregiving tasks were more likely to experience role strain than FCGs with lower scores of difficult caregiving tasks (p < .001).

HF functional class based on the perception of the FCG was statistically significant with caregiver role strain (p = .015). Correlation analysis was conducted to determine the relationship between HF functional classes II, III, and IV, and levels of caregiver role strain. HF functional class II had a significant positive correlation with caregiver role strain (r = .331). HF functional class III positively correlated with caregiver role strain (r = .085). HF functional class IV had a significant positive correlation with caregiver role strain (r = .085).

Table 10

	Mean						
HF Functional Class (I)	HF Functional Class (J)	Difference (I–J)	Std. Error	Significance			
Class II	Class III	-1.98	1.05	.185			
	Class IV	-5.82	1.24	<.001***			
Class III	Class II	1.98	1.05	.185			
	Class IV	-3.84	1.28	.009**			
Class IV	Class II	5.82	1.24	<.001***			
	Class III	3.84	1.28	.009**			

The Mean Difference of Role Strain in FCGs of HF Patients with Functional Class II, III, and IV

Note. Class II = HF patients with functional class two; Class III = HF patients with functional class three; Class IV = HF patients with functional class four; Std. Error = standard error. *p < .05, **p < .01, ***p < .001.

One-way ANOVA with Post Hoc procedure was conducted to compare the mean difference of role strain in FCGs of HF patients with functional class II, III, and IV. The mean difference of role strain between FCGs of HF patients with functional class II and IV, and III and IV was significant (see Table 10). However, the mean difference of caregiver role strain between FCGs of HF patients with functional class II and III was not significant because there was a small difference (p = .185, mean difference = 1.98). The mean difference between FCGs of HF patients with functional class III and IV was statistically significant (p = .009, mean difference = 3.84). The largest mean difference of caregiver role strain was between FCGs of HF patients with functional class II and IV (p < .001, mean difference = 5.92).

FCGs who more frequently participated in Buddhist activities were less likely to experience role strain (p < .001) (see Table 11). FCGs with a higher score of physical function experienced lower levels of role strain than FCGs with poor physical function (p = .048). FCGs who had more social support experienced lower levels of role strain than FCG with less social support (p < .001).

Table 11

Coefficient for Final Linear Regression Model Indicating Significant Predictors for Caregiver Role Strain

	Unstandardized	Std.	Standardized				
Variable	Beta	Error	Beta	t	р		
Constant	21.885	3.347		6.538	.000		
Caregiver gender	2.208	.700	.155	3.155	.002**		
HF functional class	1.009	.408	.130	2.470	.015**		
Difficult caregiving tasks	.161	.039	.236	4.087	<.001***		
Participation in Buddhist	433	.079	315	-5.462	<.001***		
activities							
Caregiver physical function	034	.017	103	-1.994	.048*		
Caregiver social support	122	.020	373	-6.001	.002**		
Note to distributions of the Enner standard survey							

Note. t = t distribution; Std. Error = standard error.

*p < .05, **p < .01, ***p < .001.

In summary, with respect to Specific aim one, FCG characteristics had a significant impact on caregiver role conflict and role strain. Additionally, HF functional class based on FCG perception was statistically significant with role strain. Caregiver characteristics that included gender, social support, and difficult caregiving tasks were statistically significant with caregiver role conflict. Caregiver gender, HF functional class based on FCG perception, difficult caregiving tasks, participation in Buddhist activities, physical function, and social support had a significant impact on caregiver role strain.

Aim 2: To examine the relationship of difficult and time consuming HF caregiving tasks on caregiver role conflict.

A linear regression model was run to evaluate effects of difficult and time consuming caregiving tasks on caregiver role conflict. The final model had an R = .667, R square = .446, F = 56.645, with a p < .001. The adjusted R square for the final model was .438, indicating that the model explained about 44% of variance on caregiver role conflict (see Table 12).

Table 12

Coefficient for Final Linear Regression Model Indicating Significant Time Consuming and Difficult Caregiving Tasks on Role Conflict

	Unstandardized	Std.	Standardized				
Variable	Beta	Error	Beta	t	р		
Constant	.454	4.106		.111	.912		
Time consuming caregiving	.134	.127	.112	1.048	.296		
tasks							
Difficult caregiving tasks	.670	.125	.573	5.353	<.001***		

Note. t = t distribution; Std. Error = standard error.

*p <.05, **p <.01, ***p <.001.

Difficult caregiving tasks was statistically significant with role conflict (p < .001), indicating that FCGs with higher levels of difficulty with caregiving tasks experienced more role conflict than FCGs with lower levels of difficulty with caregiving tasks (see Table 12). Time consuming caregiving tasks was not statistically significant with role conflict (p = .296). The results showed that levels of difficult caregiving tasks affected levels of caregiver role conflict, but levels of time consuming caregiving tasks did not influence levels of caregiver role conflict. In summary, regarding specific aim two, difficult caregiving tasks was statistically significant with caregiver role conflict. However, levels of time consuming caregiving tasks were not significant with role conflict.

Aim 3: To test the belief in the Buddhist Karma Rule, participation in Buddhist activities, and caregiver social support as a possible moderating factor influences on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks.

After adjusting for difficult and time consuming caregiving tasks, the PI sought to determine whether caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities moderated the relationship between caregiver role conflict and role strain or not. A general linear model procedure was conducted to analyze main effects and interaction effects of independent variables on a dependent variable. Caregiver role conflict, social support, the belief in the Buddhist Karma Rule, participation in Buddhist activities, and a composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities were included in the model as independent variables. Caregiver role strain was added in the model as a dependent variable. The following paragraph will describe the results of testing caregiver social support as a moderating factor on the relationship between caregiver role conflict and role strain.

Caregiver Social Support as a Moderating Factor of the Relationship between Role Conflict and Role Strain

A general linear model was used to examine the main effect and interaction effect of caregiver social support and role conflict on caregiver role strain. Caregiver social support was included in the model as a moderating factor on the relationship between caregiver role conflict and role strain. For the main effects, caregiver role conflict had a significant influence on caregiver role strain (p < .001). Caregiver social support had a significant impact on caregiver role strain (p < .001). Interaction effects of role conflict and caregiver social support was statistically significant on caregiver role strain. The p-value for interaction effect is p < .001, indicating caregiver social support can moderate the relationship between role conflict and role strain (see Table 13).

Table 13

Coefficient for Final Linear Regression Model Indicating Social Support as a Significant Moderating Factor on the Relationship between Role Conflict and Role Strain

Variable	Type III Sum of Square	df	Mean Square	F	р
Role conflict	1676.31	85	19.72	1.56	<.001***
Social support	747.54	36	20.77	1.65	<.001***
Role conflict*social	61.98	7	8.85	7.02	<.001***
support					
<i>Note</i> . $F = F$ distribution; df = degree of freedom.					

*p < .05, **p < .01, ***p < .001.

The Composite Score of the Belief in the Buddhist Karma Rule and Participation in

Buddhist Activities as a Moderating Factor of the Relationship between Role Conflict and

Role Strain

There were two questions regarding the influence of the Buddhist religion on role conflict and role strain, including the belief in the Buddhist Karma Rule and frequency of participation in Buddhist activities. In this analysis, non-Buddhist followers, including Christians (n = 1), and Muslims (n = 8), were excluded. To test the influence of the Buddhist religion as a moderating factor of the relationship between caregiver role conflict and role strain, a composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities were developed. Table 14

Coefficient for Final Linear Regression Model Indicating Composited Score of the Belief in the Buddhist Karma Rule and Participation in Buddhist Activities as a Significant Moderating Factor on the Relationship between Role Conflict and Role Strain

Variable	Type III Sum of Square	df	Mean Square	F	р	
Role conflict	2692.95	88	30.60	3.83	.390	
Composite score of belief in	435.88	20	21.79	2.72	.449	
the Buddhist Karma Rule						
and participation in						
Buddhist activities						
Role conflict*composite	252.96	18	14.05	1.76	.540	
score of belief in the						
Buddhist Karma Rule and						
participation in Buddhist						
activities						
<i>Note</i> , $F = F$ distribution: df = degree of freedom.						

*p < .05, **p < .01, ***p < .001.

A general linear model was conducted to test main effects and interaction effects of role conflict and the composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities on caregiver role strain. The composite score was added to the model as a moderating factor between role conflict and role strain. The results of the composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities as a moderating factor on the relationship between caregiver role conflict and role strain are summarized in Table 14.

For the main effects, caregiver role conflict was not a significant influence on caregiver role strain (p = .390). The composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities was not significant to caregiver role strain (p = .449). Interaction effects of role conflict and the composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities were added to the model. Interaction effects of role conflict and the composite score of the belief in the Buddhist Karma Rule and participation in
Buddhist activities was not statistically significant (p = .540), indicating that the composite score did not moderate the relationship between caregiver role conflict and role strain.

The composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities was developed based on the hypothesis that FCCs who had more intense belief in the Buddhist Karma Rule may frequently participate in Buddhist activities. However, the interaction effect of the composite score was not significant. This may result from Thai FCGs reporting high levels of belief in the Buddhist Karma Rule but not frequently participating in Buddhist activities. There may be some factors that thwart the participation in Buddhist activities of FCGs such as caregiving responsibilities or lack of availability.

With regard to correlation results, participation in Buddhist activities had a significant correlation with caregiver role conflict (r = -.363) and role strain (r = -.631). Based on these results, the PI decided to test the belief in the Buddhist Karma Rule and participation in Buddhist activities as moderating factors separately. The following section will evaluate the belief in the Buddhist Karma Rule as a moderating factor on the relationship between role conflict and role strain.

Belief in the Buddhist Karma Rule as a Moderating Factor of the Relationship between Role Conflict and Role Strain

A general linear model was run to determine the main effects and interaction effects of role conflict and the belief in the Buddhist Karma Rule on caregiver role strain. FCGs who were not followers of Buddhism, which included Muslims (n = 1) and Christians (n = 8), were excluded from the analysis. A total score of the belief in the Buddhist Karma Rule was included in the model as a moderating factor on the relationship between caregiver role conflict and caregiver role strain (see Table 15).

Table 15

Coefficient for Final Linear Regression Model Indicating the Belief in the Buddhist Karma Rule as a Significant Moderating Factor on the Relationship between Role Conflict and Role Strain

Variable	Type III Sum of Square	df	Mean Square	F	р
Role conflict	3515.47	94	37.40	37.40	<.001***
Belief in the Buddhist	201.94	13	15.53	2.32	.007**
Karma Rule					
Role conflict*belief in the	456.13	18	25.41	3.80	.030*
Buddhist Karma Rule					

Note. F = F distribution; df = degree of freedom.

*p < .05, **p < .01, ***p < .001.

For the main effects, caregiver role conflict had significant influence on role strain (p < .001). The belief in the Buddhist Karma Rule had a significant impact on caregiver role strain (p = .007). Interaction effects of role conflict and the belief in the Buddhist Karma Rule were added to the model. Interaction effects of role conflict and the belief in the Buddhist Karma Rule was statistically significant with role strain. The p-value for interaction effect is p = .030, indicating that the belief in the Buddhist Karma Rule moderated the relationship between role conflict and role strain (see Table 15).

Participation in Buddhist Activities as a Moderating Factor on the Relationship between Role Conflict and Role Strain

A general linear model was conducted to examine main effects and interaction effects of role conflict and participation in Buddhist activities on caregiver role strain. FCGs who were not Buddhist followers were excluded from the analysis, including Christians (n = 1), and Muslims (n = 8). Total scores of participation in Buddhist activities were incorporated in the model as a moderating factor on the relationship between caregiver role conflict and role strain. The

following paragraph describes the results of main effects and interaction effects of participation

in Buddhist activities and caregiver role conflict on levels of caregiver role strain.

Table 16

Coefficient for Final Linear Regression Model Indicating Scores of Participation in Religious Activities as a Significant Moderating Factor on the Relationship between Role Conflict and Role Strain

Variable	Type III Sum of Square	df	Mean Square	F	р
Role conflict	2111.21	92	20.40	20.40	.005**
Participation in Buddhist	413.10	14	26.23	26.23	.003**
Role conflict*participation	276.50	21	11.70	11.70	.014**
in Buddhist activities					
	1				

Note. F = F distribution; df = degree of freedom.

*p < .05, **p < .01, ***p < .001.

For the main effects, caregiver role conflict had a significant impact on role strain (p = .005). Participation in Buddhist activities was statistically significant with caregiver role strain (p = .003). The interaction effect of role conflict and participation in Buddhist activities was added to the model. The interaction effects of role conflict and participation in Buddhist activities were statistically significant with caregiver role strain (p = .014), indicating that more frequent participation in Buddhist activities can moderate the relationship between role conflict and role strain (see Table 16).

In summary, with regard to specific aim 3, after adjusting for difficult and time consuming caregiving tasks, the results showed that the main effects of caregiver role conflict, social support, participation in Buddhist activities, and the belief in the Buddhist Karma Rule were statistically significant with caregiver role strain. The main effect and interaction effect of the composites score of the belief in the Buddhist Karma Rule and participation in Buddhist activities was not significant with role strain. Interaction effects of social support and role conflict, participation in Buddhist activities and role conflict, and the belief in the Buddhist Karma Rule were statistically significant on role strain as shown in Table 13, 15, and 16. These results support that social support, participation in Buddhist activities, and belief in the Buddhist Karma Rule were moderating factors that influenced the relationship between role conflict and role strain.

Summary

This chapter presented the results from the overall analysis. For descriptive data of FCGs, the majority were female, the average age was 46.31 (SD = 14.01), and the average years of education was 7.88 (5.15). The reliability of all study instruments was acceptable. Distributions of caregiver role conflict and role strain were normal. With respect to study results; caregiver gender, caregiver social support, and difficult caregiving tasks had a significant relationship with caregiver role conflict. Caregiver gender, HF patient functional class based on FCG perception, caregiver social support, caregiver physical function, participation in Buddhist activities, and difficulty of caregiving tasks had a significant impact on caregiver role strain.

These results supported specific aim one. For specific aim two, levels of difficult caregiving tasks were statistically significant with caregiver role strain. However, levels of time consuming caregiving tasks were not significant with role conflict. These results showed that levels of difficult caregiving tasks had a significant impact on caregiver role strain. Caregiver social support, participation in Buddhist activities, and belief in the Buddhist Karma Rule can moderate the relationship between role conflict and role strain. These results supported specific aim three. Discussion and interpretation regarding study results and suggestions for future study will be presented in chapter 6. Additionally, implications for nursing practice, research, and policy will also be identified in chapter 6.

Chapter 6

Discussion & Implications

This study focused on the relationship between FCG and HF patient characteristics and difficult and time consuming caregiving tasks on role conflict and role strain in FCGs who cared for an HF patient for at least three months. Caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities were tested as possible moderating factors on the relationship between caregiver role conflict and role strain. This final chapter will discuss the interpretation of study results, the relationship of these results to the conceptual framework and other research findings, and limitations of this study. Study results in relation to advanced nursing science will also be discussed. The study's implications regarding nursing practice, nursing research, and policy will also be presented in this chapter.

Discussion and Interpretation

In the discussion and interpretation section, firstly, results of the study will be discussed. After that, the interpretation of study results in relation to FCGs and nursing will be included with regard to each specific aim. Discussion and interpretation of study results for specific aim One will be presented in the following paragraphs.

Discussion and Interpretation of Results for Specific Aim One

Aim 1: Determine the relationship of rural Thai FCGs and HF patient sociodemographic characteristics, difficult and time consuming HF caregiving tasks, belief in the Buddhist Karma Rule, and social support with caregiver role conflict and role strain.

Role conflict. Primary correlation of FCG and HF patient characteristics and role conflict was conducted. Caregiver gender and difficult caregiving tasks had a positive correlation with role conflict. Female FCGs tended to experience more role conflict than male FCGs. FCGs with

high levels of difficult caregiving tasks experienced high levels of caregiver role conflict. On the other hand, social support had a large negative correlation with role conflict, indicating that caregiver social support had a strong relationship with role conflict. If FCGs had more social support, they experienced low levels of caregiver role conflict.

The relationships of caregiver gender, social support, difficult caregiving tasks, and role conflict were investigated by conducting a linear regression procedure to determine the significant predictors of role conflict. Study results showed that caregiver gender, difficult tasks, and social support were significant predictors of caregiver role conflict.

Caregiver gender. Caregiver gender had positive correlation with levels of role conflict. Results from a linear regression showed that caregiver gender was found to be a predictor of caregiver role conflict. Study results showed that female FCGs were more likely to experience role conflict than male FCGs. Earlier western studies have noted caregiver gender to be a predictor of caregiver role conflict (Cantor, 1983; Fitting, Rabin, Lucus, & Estham, 1986). The results in this study were consistent with western studies, which showed that female FCGs reported more role conflict than male FCGs. One Thai study found that Thai female FCGs reported low to moderate levels of role conflict and role strain, which was different from the results of this study (Matayamol, 2003).

Based on the study results, the majority of FCGs were female. Female FCGs complete more family role obligations (household work, child care, etc.) than male FCGs. Female FCGs took more time to complete a caregiving role than male FCGs. When female FCGs performed a caregiving role they could not complete other family roles, causing them to experience high levels of role conflict. In other words, a caregiver role affected other family role responsibilities of female FCGs. Female FCGs are at risk to experience role conflict, and they should be cared for by health providers and related staff.

Caregiver social support. Caregiver social support had a significant negative correlation with caregiver role conflict, indicating that FCGs with low levels of social support experienced high levels of role conflict. Social support, based on the results of a regression model, was a significant predictor of role conflict. Results showed that FCGs who received more support tended to experience low levels of role conflict. On the other hand, FCGs with low levels of support from family, friends, and other persons experienced high levels of role conflict. Results of this study were consistent with western and Thai studies (Johnson, Stewart, Hall, Fredlund, & Theorell, 1996; Kickul, & Posig, 2001; Lee, Li, Jiraphongsa, & Rotheram-Borus, 2010). Perceived social support acts as a buffer to protect FCGs from various types of emotional distress, including role conflict and role strain. The hypothesis regarding social support as a significant predictor of role conflict and role strain was supported by the results from this study.

FCGs who perceive high levels of support from family, friends, and other persons are able to complete a caregiver role and other social roles. This leads them to be able to satisfactorily complete all role obligations and experience low levels of role conflict. This study was conducted in rural areas of eastern Thailand. Some FCGs in this study lived with extended family, and they received more support from family members to care for HF patients. Family members in rural areas helped FCGs care for HF patients and helped FCGs complete other family, social, and work roles. Additionally, FCGs received emotional support from family, friends, and other significant persons; which helped them relieve role conflict and role strain. Support from family members can help FCGs to deal with all role obligations and cause them to experience low levels of role conflict.

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Caregiver social support in this study includes perceived support from family members, friends, or other significant persons. In this study, the majority of FCGs reported that they received support from their family members in caring for an HF patient. Support from family helped FCGs to care for HF patients and gave them available time to perform other roles, such as work and family roles. Additionally, it also gave FCGs available time to care for themselves and join recreational activities. This caused them to experience low levels of role conflict and role strain.

Difficult caregiving tasks. Difficult caregiving tasks was positively correlated with caregiver role conflict, indicating that FCGs who reported high difficult caregiving task scores also had high levels of role conflict. Linear regression results revealed that difficult caregiving tasks was a strong predictor of caregiver role conflict, identifying that FCGs with high levels of difficult caregiving tasks experienced high levels of role conflict. These results were consistent with earlier western studies, which stated that FCGs who dealt with high levels of difficult caregiving tasks reported high levels of emotional distress (Bakas et al., 2006; Pressler et al., 2009). However, the result of this study differed from results from one Thai study (Boonluk, 2006). The Thai study results showed that FCGs reported moderate levels of difficult caregiving tasks.

The levels of difficult caregiving tasks and caregiver role conflict in FCGs need to be determined. If the results show that FCGs who deal with more difficult tasks experience role conflict, they should be cared for by health care providers. A training program to help FCGs deal with difficult caregiving tasks should be implemented for FCGs with high levels of difficult caregiving tasks. This program could train FCGs to manage difficult HF caregiving tasks, such

as medical, physical, and emotional tasks. A training program may help FCGs to relieve levels of caregiver role conflict and role strain.

Role strain. The correlation and linear regression procedures were conducted to determine the relationship between FCG and HF patient characteristics, caregiving tasks, social support, the belief in the Buddhist Karma Rule, participation in Buddhist activities, and caregiver role conflict and role strain. Caregiver gender, HF functional class based on FCG perception, and difficult caregiving tasks positively correlated with role strain. Caregiver physical function, participation in Buddhist activities, and social support had a negative correlation with role strain.

The correlation between role conflict, role strain, social support, and difficult caregiving tasks was significant; indicating that if FCGs received more social support, they experienced lower levels of role conflict and role strain. These results supported the idea to examine the effects of social support and difficult and time consuming caregiving tasks on role conflict and role strain by running a linear regression model. A linear regression model was performed to examine significant predictors of role strain. Significant predictors of caregiver role strain included caregiver gender, HF functional class based on FCG perception, difficult caregiving tasks, caregiver physical function, social support, and participation in Buddhist activities. These results supported the hypothesis regarding the significant relationship between FCG and HF patient characteristics, difficult caregiving tasks, social support, the belief in the Buddhist Karma Rule, and caregiver role strain of this study. The significant predictors of role conflict and role strain will be interpreted and discussed in the following paragraphs.

Caregiver gender. Caregiver gender had positive correlation with levels of role strain, which indicated that female FCGs of HF patients reported higher levels of role strain than male FCGs. With respect to the results from the regression procedure, female FCGs reported higher

levels of role conflict and role strain than male FCGs. These results were consistent with earlier studies (Rosenbaum & Cohen, 1999; Stephens et al., 2001). Based on the study results, female FCGs of HF patients reported high levels of caregiver role strain that resulted from the fact that female FCGs could not complete their caregiving role and other role obligations. These results were consistent with western studies that showed that female FCGs reported high levels of role strain (Fitting et al., 1986; Lee et al., 2008; William et al., 2004). However, results in this study were not consistent with a Thai study. Results from the Thai study found that female FCGs of stroke patients reported moderate levels of role strain (Matayamool, 2003).

Like the previous discussion in the gender paragraph of the role conflict section, female FCGs occupied more family roles than male FCGs. Female FCGs had fewer hours to perform other role obligations when they completed a caregiving role, causing female FCGs to experience role strain. In other words, female FCGs were more likely to experience role strain than male FCGs. Therefore, female FCGs who care for an HF patient for at least three months must be evaluated on their levels of role conflict and role strain. If caregiver role conflict and role strain in female FCGs is detected early, this problem can be dealt with by health care providers. Nurses should determine levels of role conflict and role strain in female FCGs with high levels of role conflict and role strain should receive a training program that includes strategies to reduce role conflict and role strain as a caregiver. FCGs who have a high risk of experiencing role conflict and role strain due to caring for an HF patient should be included in the training program. This program can help FCGs to relieve or prevent role conflict and role strain.

HF functional class based on FCG perception. Based on the correlation results, HF functional class positively and significantly correlated with caregiver role strain. The results

from the regression model showed that HF functional class had a significant influence on levels of caregiver role strain. Results in this study were consistent with previous western and Thai studies that showed that HF patients with advanced functional class (class III and IV) required more care, both physical and psychological, from their caregivers (Molloy et al., 2005; Moser & Dracup, 2000; Krethong et al., 2006). Participants of this study were FCGs of HF patients with functional class II to IV. These HF patients experienced limitations of their physical function, leading them to require more physical care from their FCGs than HF patients with a lower severity of functional class. These results were supported by the fact that the number of hours of care in this study showed that HF functional class IV and III required long hours of care per day (functional class IV = 14.74 hours (SD = 6.81), and functional class III = 9.26 hours (SD = 5.51)). In other words, FCGs of HF patients with a high severity HF functional class (class III and IV) spent more hours per day caring for a patient, which caused FCGs to experience high levels of role strain.

The PI also tested the mean difference of caregiver role strain between groups of HF functional class II, III, and IV patients. The results revealed a significant mean difference of caregiver role strain between HF functional class II and IV, and III and IV. However, the mean difference between HF functional class II and III was not significant. The highest mean difference of caregiver role strain was between HF functional class II and IV, which indicated that FCGs of HF functional class IV patients experienced more role strain than FCGs of functional class II and III patients. The study results supported that HF patients with a high severity functional class needed more care from FCGs, which caused them to experience high levels of caregiver role strain.

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Additionally, the results of this study supported the statement that FCGs of HF patients with a higher severity functional class reported higher levels of caregiver role strain than FCGs of HF patients with a lower severity functional class. Levels of role conflict and role strain in FCGs who care for HF patients with functional class III and IV should be evaluated. Also, these FCGs should be cared for by health care providers. A training program should be implemented to FCGs who care for HF patients with functional class III and IV. Strategies to care for HF patients with functional class III and IV. Strategies to care for HF patients with functional class III and IV. Strategies to care for HF patients with functional class III and IV. Strategies to care, should be included in the training program. These strategies will help FCGs to deal with their caregiving tasks, which will lead them to experience low levels of role conflict and role strain.

Difficult caregiving tasks. Difficult caregiving tasks had positive correlation with caregiver role strain. FCGs with high levels of difficult caregiving tasks experienced more caregiver role strain than FCGs with low levels of difficult caregiving tasks. Also, based on the result from the regression procedure, difficult caregiving tasks was a strong predictor of caregiver role strain. These results were consistent with western studies that showed that high levels of difficult caregiving tasks can increase levels of emotional distress in FCGs (Bakas et al., 2006; Pressler et al., 2009). There were few studies about the perception of FCGs about difficult caregiving tasks of HF patients in Thailand. One Thai study found that FCGs of autistic children report moderate levels of caregiving tasks (Boonluk, 2006). This may result from FCGs of autistic children not having to manage severe symptom like FCGs of HF patients do.

These study results indicated that increased levels of difficult caregiving tasks resulted in increased levels of FCG role strain. FCGs who completed difficult medical, physical, and emotional care for an HF patient felt a caregiving role was stressful, difficult, and confining; leading them to experience role strain.

Additionally, FCGs who completed high levels of difficult caregiving tasks had no time to complete other social and family roles, which led them to feel stress, confinement, and difficulty with a caregiving role. In other words, FCGs felt that difficult caregiving tasks were interfering with other social and family roles, causing them to experience role strain. FCGs of high severity HF functional class patients dealt with difficult medical, physical, and emotional tasks; and they spent more time completing a caregiver role, causing them to have no time to complete other family and social roles. This situation led FCGs to experience role conflict and role strain. Levels of difficult caregiving tasks in FCGs need to be determined for appropriate care for vulnerable FCGs with high levels of difficult caregiving tasks. FCGs with more difficult caregiving tasks who experience role strain should receive a training program to help them learn how to relieve levels of role strain. The training program should include methods to deal with difficult caregiving tasks (medical, physical, and emotional), and strategies to prevent or relieve role conflict and role strain. An effective method to control sodium levels in HF patients, for example, should be included in the training program for FCGs.

Caregiver physical function. Caregiver physical function had a negative correlation with role strain, indicating that FCGs with good physical function experience low levels of role strain. The PI also determined the average score of physical function in FCGs of HF functional class II, III, and IV patients. All FCGs reported good physical function. The highest physical function score was for FCGs of HF patients with functional class II (93.55, SD = 12.82). The average physical function score of FCGs of HF patients with functional class III (87.12, SD = 22.02) and IV (87.03, SD = 19.75) were not much different. The results showed that FCGs of HF functional class III and IV patients had lower scores of physical function than FCGs of HF functional class II patients, which may have caused FCGs of HF patients with functional class III and IV to

experience higher levels of role conflict and role strain. These results also indicated that FCGs of HF functional class II patients had better physical function than FCGs of HF functional class III and IV patients. FCGs of HF patients with functional class II might experience low levels of caregiver role strain because they can complete a caregiving role and other role obligations.

Based on the regression results, caregiver physical function was also found to be a predictor of caregiver role strain. FCGs with high scores of physical function experienced lower levels of role strain than FCGs with low scores of physical function. Additionally, FCGs with poor physical function tended to report high levels of role strain because they were not able to complete a caregiver role along with other roles obligations. In the same way, earlier western and Thai studies revealed that physical function was noted to be a predictor of both physical and emotional distresses (Pinqurat & Sorensen, 2007; Krethong et al., 2008; Vitaliano et al., 2003).

FCGs with high scores of physical function were able to complete caregiving role obligations to the level of their expectation and led them to experience low levels of role strain. Evidence implied that FCGs with low scores of physical function were at risk to experience role strain that affected their health. FCG physical function should be determined. A support program, such as home care services and support groups, should be applied to FCGs with limited physical function. These support programs could help FCGs to deal with a caregiver role and other roles and lead them to experience low levels of role conflict and role strain.

Caregiver social support. Caregiver social support had a significant negative correlation with caregiver role strain. Additionally, based on the regression result, caregiver social support was a strong predictor of caregiver role strain. Study results showed that FCGs with more social support experienced low levels of caregiver role strain. Results of this study were similar to western and Thai studies that perceived that high levels of social support may affect levels of

emotional distress such as depression, burden, and role strain (Lee et al., 2010; Luttik et al., 2005). If FCGs perceived more social support from their families, friends, and other persons it helped them deal with their caregiving role, leading them to have low levels of role strain. FCGs with more social support could manage their time, and had more time to complete other roles. Additionally, these FCGs had more time for themselves.

In Thai culture, FCGs tend to receive more support from family than other types of social support. FCGs in this study reported that the majority of social support was from family members. Thai family members and FCGs of HF patients perceived that caring for a patient was the duty of family members. FCGs who received support from family members to care for HF patients could deal with their role conflict and role strain. Support from family members included helping, talking, and being with an FCG when he/she needed them to. This support can relieve emotional distress in FCGs of HF patients. Levels of support, types of care, and number of hours of care from volunteer; community; and peer groups that can relieve role conflict and role strain in FCGs should be determined in future studies. Also, health care providers should develop a support program, such as a support group, or respite care for FCGs who report a lack of social support. A support program could help FCGs to complete a caregiver role and other role obligations.

Participation in Buddhist activities. Correlation between participation in Buddhist activities and caregiver role strain was negative. FCGs with high scores of participation in Buddhist activities tended to experience lower levels of caregiver role strain. Participation in Buddhist activities was also found to be a predictor of caregiver role strain. Study results showed that Thai FCGs who had more frequent participation in Buddhist activities, which included praying, giving food to monks, going to temple, meditating, and making a donation; reported low levels of role strain. FCGs who frequently participate in Buddhist activities may develop more emotional strength to deal with their caregiving role, leading them to experience low levels of role strain.

Results in this study were consistent with past western and Thai studies that showed that religious participation enhanced the psychological health of FCGs (Greenfield & Mark, 2007; Strawbridge et al., 2001; Treloar, 2002; Thampanichawat, 2008; Vithayachockitikhun, 2006). With respect to study results, participation in Buddhist activities may provide FCGs with opportunities to relieve or prevent levels of role conflict and role strain. Evidence implied that participation in Buddhist activities should be included in current nursing care to enhance FCG health status. Buddhist activities, such as meditating and praying, should be integrated into a program for training FCGs. This training program could prevent FCGs of HF patients from developing role conflict and role strain.

In summary, based on the study results, caregiver gender; difficult caregiving tasks; and social support had influence on levels of caregiver role conflict and role strain. HF functional class based on FCG perception, caregiver physical function, and participation in Buddhist activities had significant influences on caregiver role strain. These results support the study hypotheses and were consistent with earlier research. Some FCG and HF patient characteristics were not statistically significant with caregiver role conflict and role strain. HF patient and FCG age, education, number of roles, employment status, household income, relationship to the patient, religion, and number of hours of care were not significant. For example, caregiver religion was not significant with role conflict and role strain, which may have resulted from the fact that the majority of FCGs were Buddhist followers. This may have affected the variation of response. This may also result from the fact that this study was conducted in one hospital

(Buddhasothorn Hospital) and the sample size was small, which may limit the variation of study results. Further research needs to be conducted in a larger group of FCGs who represent rural Thai FCGs.

Discussion and Interpretation of Results for Specific Aim Two

Aim 2: Examine the impacts of difficult and time consuming HF caregiving tasks on caregiver role conflict.

Correlation procedures were conducted to examine the relationship between difficult and time consuming tasks and role conflict. Difficult and time consuming tasks had a positive correlation with role conflict, indicating that FCGs with high levels of difficult and time consuming caregiving tasks experienced high levels of role conflict. After running a linear regression model, difficult caregiving tasks was shown to be statistically significant with role conflict but time consuming caregiving tasks was not.

Time consuming caregiving tasks. Time consuming caregiving tasks was not significantly correlated with levels of caregiver role conflict. The result of this study showed that the effect of time consuming caregiving tasks on levels of caregiver role conflict was not consistent with earlier western and Thai studies (Bakas et al., 2006; Boonluk, 2006). Results of earlier studies showed that FCGs of chronically ill patients reported more time consuming caregiving tasks and that they frequently experienced high levels of emotional distress (Bakas et al., 2004; 2006; Boonluk, 2006). This might result from the fact that all FCGs in this study reported high levels of time consuming caregiving tasks. This idea was supported when the PI analyzed the average score of time consuming tasks of FCGs of HF patients with functional class II, III, and IV. The average score of time consuming tasks in FCGs of HF patients with functional class II was 48.71 (SD = 8.82), functional class III was 54.21 (SD = 8.28), and

functional class IV was 56.1 (SD = 5.86) (see Table 6 in chapter 5). There was a small difference in time consuming task scores between FCGs of HF functional class III and IV patients.

The PI also analyzed the average score of time consuming caregiving tasks in male and female FCGs. The results showed that the average score of time consuming tasks in female FCGs was 53.60 (SD = 7.10), and male FCGs was 51.85 (SD = 9.15). Results showed slightly different levels of time consuming caregiving tasks regarding gender of FCGs. Most FCGs spent long hours each day to care for HF patients. However, FCGs with high scores of time consuming tasks did not experience role conflict. FCGs may have felt that caregiving tasks consumed more time but that they could complete the caregiving role. The result from this could be that FCGs could complete their role obligations, and they did not have conflict with their roles.

Difficult caregiving tasks. Performing high levels of difficult caregiving tasks leads FCGs to feel that a caregiving role disturbs other family and social role obligations. Difficult caregiving tasks affect levels of FCG role conflict. HF patients, particularly those patients with functional class II to IV, require more difficult caregiving tasks, including medical; physical; and emotional care tasks. The PI determined levels of difficult caregiving tasks in FCGs who cared for HF patients with functional class II, III, and IV. The average score of difficult caregiving tasks for HF functional class II patients was 48.66 (SD = 6.68), class III was 53.04 (SD = 8.97), and class IV was 57.27 (SD = 6.07). FCGs of HF patients with functional class IV reported the highest levels of difficult caregiving tasks. These results imply that FCGs of HF patients with functional class III and IV dealt with higher levels of difficult caregiving tasks, which led them to experience role conflict.

These results were consistent with earlier western and Thai research. Earlier studies found that difficult caregiving tasks and FCG emotional distress were related (Bakas et al., 2006;

Pressler et al., 2009; Vithayachockitikhun, 2006). FCGs who spend more time completing high levels of difficult caregiving tasks found that it affected their time to perform other roles, such as parental, spousal, and work roles; which led them to experience role conflict and role strain. However, specific caregiving tasks that were difficult should be further investigated. Caregiving tasks in this study included medical, physical, and emotional care. However, a specific type of caregiving task that influenced caregiver role conflict was not identified. Medical tasks, for example; such as symptom monitoring, sodium control, and medication administration; that influence levels of role conflict and role strain, should be determined. The results of extensive study can be used to prepare FCGs by giving them the knowledge and skills needed to care for HF patients who require difficult caregiving tasks.

In summary, difficult caregiving tasks influence levels of role conflict, which supported the proposed relationship in Specific Aim Two, but time consuming caregiving tasks was not significant with role conflict. The level of difficult caregiving tasks is a significant predictor of role conflict. Regardless of role conflict levels, FCGs reported high levels of time consuming caregiving tasks. Levels of time consuming caregiving tasks did not influence levels of role conflict and role strain. On the other hand, levels of difficult caregiving tasks can predict levels of caregiver role conflict and role strain. FCGs with higher levels of difficult caregiving tasks are more likely to experience role strain than FCGs with lower levels of difficult caregiving tasks. Levels of difficult caregiving tasks in FCGs of HF patients should be determined. FCGs with high levels of difficult and time consuming caregiving tasks who experience role conflict should be cared for by health care providers.

Discussion and Interpretation of Results for Specific Aim Three

Aim 3: Test the belief in the Buddhist Karma Rule and FCG social support as possible moderating influences on the relationship between caregiver role conflict and role strain, controlling for difficult and time consuming HF caregiving tasks.

Role conflict positively correlated with role strain, indicating that FCGs with high levels of role conflict tended to experience high levels of role strain. The strongest relationship was between role conflict and role strain (r = .710). Based on the result from the regression procedure, caregiver role conflict had significant influence on caregiver role strain (p < .000). In this study FCGs who experience role conflict tend to experience higher levels of role strain than FCGs with lower levels of role conflict. Literature shows that caregiver social support and religious belief can influence levels of emotional distress, including role conflict and role strain. Caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities were selected to be possible moderating factors on the relationship between role conflict and role strain based on literature review and correlation among these variables. Regarding correlation results, caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities negatively correlated with role conflict and role strain. Interpretation and discussion regarding moderating effects of caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities will be presented in the following paragraphs.

Caregiver social support as a possible moderating factor. With respect to correlation values, social support negatively correlated with role conflict (r = -.579) and role strain (r = -.710). These correlations showed a significant relationship between caregiver social support and role conflict and role strain. The interaction effect of role conflict and social support had a

significant influence on role strain, indicating that social support can reduce the level of the relationship between role conflict and role strain.

Like results from earlier western and Thai studies, perceived social support can buffer an FCG's emotional distress due to caring for an HF patient (Lee et al., 2011; Wallhagen et al., 2006; Williams et al., 2003). FCGs who perceived more support from family, friends, and other people might complete their caregiving role obligations, allowing them to have more time to deal with their other role obligations. Additionally, FCGs who received more social support could manage their time in order to satisfy multiple role obligations, which supports the relationship in the proposed modified Caregiver Role Strain Model.

The major source of social support in Thailand is in the form of help from family members. This may result from Thai culture, which emphasizes extended family and close relationships within families. Nurses should encourage and empower family members to help FCGs to care for HF patients. Additionally, health care providers should determine levels of social support in FCGs of HF patients. Nurses, family members, and FCGs should work together to search for support from friends, neighbors, volunteers, and community members. These informal caregivers will provide direct care (medical, physical, and emotional care) to HF patients. The support will help FCGs to deal with their caregiver, social, and family roles; leading them to experience lower levels of role conflict and role strain.

Belief in the Buddhist Karma Rule as a possible moderating factor. The belief in the Buddhist Karma Rule negatively correlated with role conflict and role strain. The PI tested moderating effects of the score of the belief in the Buddhist Karma Rule and participation in Buddhist activities on the relationship between caregiver role conflict and role strain separately. In this study, high levels of belief in the Buddhist Karma Rule did not reflect as high scores of participation in Buddhist activities. This may have resulted from Thai FCG belief in the Buddhist Karma Rule. If FCGs provide care for a patient, they will receive happiness and good things in return. However, many FCGs might not participate in Buddhist activities. There were some factors that might hinder FCG participation in Buddhist activities. For example, some FCGs could not go to temple because they had to provide care for an HF patient at home.

Western and Thai research reported that religious belief and participation in religious activities can affect levels of FCG emotional distress (Treloar, 2002; Wallhagen & Yamamoto-Mitani, 2006; Sethabouppha, & Kane, 2005). However, there are few studies regarding how the belief in the Buddhist Karma Rule and participation in Buddhist activities influence levels of role conflict and role strain in FCGs of HF patients both in Thailand and western countries. The result of the moderating effects of the belief in the Buddhist Karma Rule and participation in Buddhist Karma Rule and participation in Buddhist activities on caregiver role strain provided new knowledge that can be used to relieve levels of role conflict and role strain in FCGs.

The mediating effect of the belief in the Buddhist Karma Rule was tested. The results revealed that the belief in the Buddhist Karma Rule can moderate levels of the relationship between caregiver role conflict and role strain. FCGs with a high intensity of the belief in the Buddhist Karma Rule can enhance their emotional strength, which may reduce their feelings of stress, confinement, and difficulty while caring for an HF patient. Earlier studies found that the belief in the Buddhist Karma Rule may enhance happiness and reduce other negative emotions in FCGs caring for a patient (Burdard, Naiyapatana, & Lloyd, 2006; Yen et al., 2011).

Study results showed that the belief in the Buddhist Karma Rule can moderate levels of role conflict and role strain in FCGs of HF patients. FCGs with a high intensity of the belief in the Buddhist Karma Rule can deal with their emotional distress because they feel that caring for

an HF patient provides them with happiness, good things in return, assistance from family members, and social recognition. In other words, the Buddhist Karma Rule can help FCGs to relieve their emotional distresses that result from caring for HF patients. The belief in positive aspects of a caregiving role based on the belief in the Buddhist Karma Rule can help FCGs to manage caregiver and other role obligations successfully.

Participation in Buddhist activities. In this sample, participation in Buddhist activities had a negative correlation with role conflict and role strain. The study results support that more frequent participation in Buddhist activities can moderate the relationship between role conflict and role strain. Earlier western and Thai studies found that participation in religious activities can reduce emotional distress in FCGs of chronically ill patients (Strawbridge et al., 2001; Sethabouppha & Kane, 2005). When FCGs practiced Buddhism, they developed a positive view of their caregiving role through meditating, praying, listening to Buddhist teachings, and making a donation (including giving food to monks); which caused them to be happy with their roles, leading them to experience low levels of role conflict and role strain. FCGs can enhance their emotional strength while participating in Buddhist activities. These Buddhist activities may help FCGs to relieve feelings of role conflict and role strain due to caring for HF patients. Study results indicated that the more frequent participation in Buddhist activities the greater reduction of role conflict and role strain in FCGs. Health care providers can use these results to encourage FCGs to participate in Buddhist activities. In addition, nurses should work with FCGs who experience role strain to find appropriate types of Buddhist activities that can relieve levels of role conflict and role strain.

In summary, caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities were found to be moderating factors on the relationship between caregiver role conflict and role strain. FCGs who received more support from family, friends, and other significant persons could complete their caregiver role and other roles with low levels of role conflict and role strain. In the same way, FCGs who had more intensity of the belief in the Buddhist Karma Rule and participated in Buddhist activities experienced low levels of role conflict and role strain. These results supported Specific Aim Three. Additionally, the moderating effects of the belief in the Buddhist Karma Rule and participated and participation in Buddhist activities on the relationship between caregiver role conflict and role strain are innovative and enhance nursing science knowledge. Health care providers should be aware of role conflict and role strain in FCGs of HF patients. Based on the study results social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities can moderate levels of role conflict and role strain. These results are useful for health care providers to help develop standard care to improve FCG health. These results also provide implications for nursing practice, research, and policy that will be discussed later in this chapter.

Discussion Results in Relation to Conceptual Framework

This study was guided by the Role Strain Model of Rural Thai Family Caregivers of HF Patients that was modified from the Role Strain Theory of Goode (1960). The components of a linear causal modified model included FCG and HF patient characteristics, difficult and time consuming caregiving tasks, social support, the belief in the Buddhist Karma Rule, role conflict, and role strain. The results of this study supported the proposed relationships among components of the modified model that were hypothesized in chapter two. The conceptual model of this study was modified for future study, based on results in this study, by including the significant predictors; moderating factors; role conflict and role strain; and the relationship among these factors in the revised model (see Figure 3). Based on the study results, FCG gender had a significant influence on levels of caregiver role conflict and role strain. HF functional class based on FCG perception had a significant impact on caregiver role strain. Difficult caregiving tasks had a significant influence on caregiver role conflict and role strain, while time consuming caregiving tasks did not impact levels of caregiver role conflict and role strain. Caregiver religion did not have a significant influence on caregiver role conflict and role strain. This may be a result of the fact that the majority of FCGs were Buddhist followers. These relationships need extensive studies to determine their true relationships. FCG and HF patient characteristics (HF patient and caregiver age, education, relationship to the patient, household income, employment status, number of roles, and number of hours of care) that were not significant were removed from the revised model.

The results of the study support the proposed relationships in the model that were in accordance with the specific aims of this study. Social support was found to be a moderating factor of the relationship between role conflict and role strain. Caregiver social support still remains in the Role Strain Model of Rural Thai Family Caregivers of HF Patients as a moderating factor of the relationship between role conflict and role strain.

However, for specific aim Three, influence of the belief in the Buddhist Karma Rule on the relationship of role conflict and role strain was determined by intensity of the belief in the Buddhist Karma Rule and participation in Buddhist activities. The composite score of the belief in the Buddhist Karma Rule and participation in Buddhist activities did not influence the levels of the relationship between caregiver role conflict and role strain. These relationships were supported by testing moderating factors of the belief in the Buddhist Karma Rule and participation in Buddhist activities on the relationship between caregiver role conflict and role



Figure 3. The revised role strain model of rural Thai family caregivers of HF patients. Adapted from "A Theory of Role Strain," by William J Goode, 1960, *American Sociological Review*, *25*, 483-496. Copyright by American Sociological Association.

strain. The results showed a significant moderating effect of the belief in the Buddhist Karma Rule and participation in Buddhist activities on the relationship between role conflict and role strain. FCGs with high levels of belief in the Buddhist Karma Rule experienced low levels of role conflict and role strain. Additionally, FCGs who more frequently participated in Buddhist activities could care for HF patients while experiencing low levels of role conflict and role strain.

FCGs can develop emotional strength through increased intensity of the belief in the Buddhist Karma Rule and participation in Buddhist activities. In other words, FCGs can deal with their emotional distresses (role conflict and role strain) while caring for HF patients. The belief in the Buddhist Karma Rule and participation in Buddhist activities still remains in the revised Role Strain Model of Rural Thai Family Caregivers of HF Patients as a moderating factor on the relationship between role conflict and role strain.

The Role Strain Model of Rural Thai Family Caregivers of HF Patients framework was developed to look at significant HF patient and FCG factors that affected levels of role conflict and role strain. Results of this study showed some FCG and HF patient characteristics had significant influence on levels of caregiver role conflict and role strain. Caregiver gender, HF functional class based on FCG perception, difficult caregiving tasks, physical function, social support, and the belief in the Buddhist Karma Rule influenced the level of role conflict and role strain. However, some proposed relationships were not found in this study. HF patient and FCG age and education, relationship to the patient, employment status, household income, number of roles, and number of hours of care were not significantly correlated with role conflict and role strain. This may result from the small sample size of this study, which influenced the variation of study results. In summary, although relationships between the components in the modified model depicted in chapter two were supported by study results, the model needed to be changed slightly in FCG and HF patient characteristics, caregiving tasks, and the belief in the Buddhist Karma Rule components. Caregiver gender, HF functional class based on FCG perception, difficult caregiving tasks, and physical function still remain in the revised model because these factors significantly influenced caregiver role conflict and role strain. Other FCG and HF patient characteristics (HF patient and FCG age and education, relationship to the patient, caregiver employment status, household income, number of roles, number of hours of care) and time consuming caregiving tasks that were not significantly correlated with caregiver role conflict and role strain were excluded from the revised model.

Additionally, the belief in the Buddhist Karma Rule was separated into two components: participation in Buddhist activities and the belief in the Buddhist Karma Rule. These two components were significant moderating factors that moderated levels of the relationship between caregiver role conflict and role strain. These two components were included in the revised model as moderating factors on the relationship between caregiver role conflict and role strain. Also, social support showed a significant moderating effect on the relationship between role conflict and role strain. Therefore, social support was also included in the revised model as a moderating factor of the relationship between role conflict and role strain. The revised model also depicts positive or negative relationships between components. For example, difficult caregiving tasks had a positive correlation with caregiver role conflict.

In comparison with the original model (Figure 1) depicted in chapter two, the revised model was parsimonious and demonstrates the true relationship between FCG and HF patient characteristics, difficult caregiving tasks, social support, the belief in the Buddhist Karma Rule,

participation in Buddhist activities, and role conflict and role strain components. Figure 3 depicts the revised Role Strain Model of Rural Thai Family Caregivers of HF Patients.

Study Limitations

Limitations of this study were found. First, this study's sample size was small (n = 144) and a convenient group of study participants were recruited from the Buddhasothorn hospital, which limited the ability to generalize all FCGs of HF patients in Thailand. Participants in this study were all residents who live in five provinces of eastern Thailand so the study results reflected only the levels of role conflict and role strain of FCGs in these areas. Future research should be conducted in a larger sample that is representative of all FCGs of HF patients in Thailand.

Second, FCGs in this study might have provided different levels of caregiving for HF patients, which influenced their responses regarding experiences in a caregiver role. HF patients with the same functional class might have different levels of caregiving demands. This may result from the fact that some HF patients might experience co-morbidity, such as hypertension and diabetes mellitus. These patients require more care from their FCGs, causing FCGs to experience high levels of role conflict and role strain. This situation might affect study results. The researchers who conduct future studies should determine levels of caregiving demands in HF patients before they begin to collect data from FCGs.

Third, FCGs were asked to complete a self-report questionnaire. Although self-report is frequently used in nursing research, this method has some limitations. Study participants may have recall bias because they were asked to report their experiences as a caregiver of an HF patient within the previous two weeks before completing the questionnaire. These FCGs may not have correctly recalled their experience, which affects the study results.

Fourth, the study participants may not have interpreted the questions correctly, causing them to answer differently than intended. Although study participants could read and write in the Thai language, they may have misinterpreted questions in the questionnaire. In future research, study participants should be evaluated on their level of literacy with the Thai language. This method can ensure that study participants completely understand the questions.

Fifth, study participants may have conducted social desirability bias. Some FCGs may have been influenced by other persons and may not have accurately reported the difficulties they face because they thought other people might judge them if they were negative about their caregiver role. FCGs may have provided answers that made them look better. However, these responses would not be true, and could have influenced the results of the study.

Finally, data collection was conducted in a short time period. Data may not vary across the FCGs of HF patients. The data collected from the variation sample can provide accurate study results and correctly answer research questions.

In summary, this study had some limitations that may have affected study results. These limitations should be dealt with in future studies in a way that explores the accurate study results and answers study questions.

Results in Relation to Nursing Science

Earlier western and Thai research reported the influence of religious belief on levels of psychological health in chronically ill patients and FCGs. However, little is known about the belief in the Buddhist Karma Rule and participation in Buddhist activities as they affect levels of caregiver role conflict and role strain. Results of this study might differ from earlier western and Thai studies that showed that individuals who had high levels of religious belief always frequently participated in religious activities (Jullamate et al., 2006; Thampanichawat, 2008). In this study, some FCGs who reported high levels of the belief in Buddhist Karma Rule reported little participation in Buddhist activities. There were some factors that influenced the participation in Buddhist activities of FCGs of HF patients such as caregiving responsibilities, and little available time to participate in Buddhist activities.

Results of this study showed the belief in the Buddhist Karma Rule and participation in Buddhist activities as moderating effects on the relationship between caregiver role conflict and role strain. Results of this study enhanced advanced nursing science by showing that the belief in the Buddhist Karma Rule and participation in Buddhist activities can reduce the relationship between caregiver role conflict and role strain. If FCGs more frequently participate in Buddhist activities or have intense belief in the Buddhist Karma Rule, they can complete their caregiving role with low levels of emotional distress. Results in this study provided knowledge about significant predictors and moderating factors of role conflict and role strain in FCGs who cared for HF patients that is supported by science. These research results can be used to develop appropriate care for FCGs who tend to experience role conflict and role strain. Nurses can apply the knowledge from this study to improve the health status of FCGs who care for HF patients and should integrate positive views of caregiving roles based on Buddhist beliefs and participation in Buddhist activities in a training program to help relieve role conflict and role strain in FCGs.

The results of this study support nursing science knowledge regarding intensity of the belief in the Buddhist Karma Rule and frequent participation in Buddhist activities that influenced levels of role conflict and role strain. Nurses can apply this knowledge to improve health status of FCGs who care for an HF patients by integrating perspectives of the belief in the Buddhist Karma Rule and participation in Buddhist activities into nursing care or training programs. The belief in the Buddhist Karma Rule focuses on the positive view of a caregiving role that FCGs may receive from caring for an HF patient, such as happiness, receiving good things in return, and social recognition. Participation in Buddhist activities, such as praying and meditating, can prevent FCGs from emotional distresses. Nurses should integrate positive views of a caregiving role based on Buddhist belief, and participation in Buddhist activities in a training program for relieving role conflict and role strain in FCGs.

Nurse researchers can develop standard nursing care, guidelines, policy, and protocol to care for FCGs of HF patients and other chronically ill patients. Clinician nurses can develop screening or intervention programs for FCGs by integrating the belief in the Buddhist Karma Rule and participation in Buddhist activities in the program. Based on study results, an intervention program could include significant activities of Buddhism, such as praying, meditating, giving food to monks, and listening to Buddhist teachings. These activities will help FCGs to create positive feelings regarding a caregiver role. Additionally, nurses should integrate positive views of a caregiving role based on the belief in the Buddhist Karma Rule, such as receiving good things in return, happiness, social recognition, and assistance from family members; into the intervention program, which may help FCGs to deal with their emotional distress from caring for an HF patient. Nurses should apply an intervention program to FCGs of HF patients who experience high levels of role conflict and role strain. FCGs who receive help from a training program will be able to manage their role conflict and role strain and enhance their emotional health.

In summary, the results of this study enhance nursing science knowledge, and these results can be utilized to improve FCG health status. Particularly, the belief in the Buddhist Karma Rule and participation in Buddhist activities, which can relieve levels of the relationship between role conflict and role strain and provide a new perspective in nursing. Nurses can integrate this knowledge into care for FCGs of HF patients or other chronically ill patients.

Based on study results, nurses should develop strategies to prevent or relieve role conflict and role strain in FCGs. First, levels of difficult caregiving tasks, caregiver physical function, social support, and role conflict and role strain in FCGs of HF patients should be determined by using a screening program. Second, intervention programs for relieving role conflict and role strain in FCGs of HF patients need to be developed. Nurses should apply this intervention program to FCGs in order to improve their emotional health. Third, nurses should develop a training program for FCGs with high levels of role conflict and role strain. This program should include strategies to deal with difficult caregiving tasks (medical, physical, and emotional care), to relieve role conflict and role strain in FCGs by practicing Buddhism, and to create positive views of caregiving. A training program will help FCGs of HF patients to complete a caregiver role with a low level of role conflict and role strain. Finally, support programs should be created for FCGs who have limited physical function and lack of social support. A support program, such as support groups or respite care, may relieve levels of role conflict and role strain in FCGs of HF patients.

Study results regarding the relationship between FCG and HF patient characteristics, difficult and time consuming caregiving tasks, social support, and caregiver role conflict and role strain provided implications to nursing practice, future research, and health care policy. The implications of study results regarding nursing practice will be discussed in the following paragraphs.

Implications for Nursing Practice

Study results showed that both FCG characteristics and difficult caregiving tasks influenced levels of caregiver role conflict and role strain. Evidence showed the negative effects of caregiver role conflict and role strain on FCG health. Clinician nurses and other health care providers need to be aware of role conflict and role strain problems in the FCG population by developing standard nursing care for them, such as the assessment, prevention, and reduction of role conflict and role strain in FCGs of HF patients.

Nursing care for FCGs who experience role conflict and role strain should be developed to improve FCG emotional health. The screening program for evaluating the levels of role conflict and role strain in FCGs of HF patients or other chronically ill patients needs to be developed. Nurses should apply a screening program across various FCG populations for detecting levels of role conflict and role strain. The real number of FCGs who experience role conflict and role strain should be determined to develop appropriate nursing care for these FCGs. Nurses can use these results to develop nursing care for FCGs and their families. Nursing care for FCGs with high levels of role conflict and role strain should include strategies to prevent and relieve role conflict and role strain in vulnerable FCG populations based on the study results.

Additionally, intervention programs for FCGs of HF patients need to be developed. All significant factors that affected levels of role conflict and role strain should be considered and integrated into intervention programs in order to reduce risk factors of role conflict and role strain in FCGs. For example, FCGs who care for high severity HF patients, such as HF patients with functional class III and IV, may have less experience in caring for HF patients at the advanced stage. An FCG's knowledge and skill for providing care to HF patients with functional class III and IV should be determined. FCGs should receive help gaining the appropriate

knowledge and skills based on the results of the evaluation. Nurses may evaluate levels of knowledge and skills of FCGs of HF patients during hospital visits or home visits by home care nurses. Additionally, nurses can educate or help FCGs practice to improve knowledge and skills needed to care for HF patients while FCGs and HF patients use hospital or home care services.

Caregiving tasks include medical, physical, and emotional. The PI compared the impact of scores of difficulty for each type of caregiving task on caregiver role conflict. Results showed that all three types of caregiving tasks were positively correlated with role conflict and role strain, indicating that medical; physical; and emotional caregiving tasks were difficult based on FCG perception. Regarding these results, difficult caregiving tasks influenced levels of both role conflict and role strain. Levels of difficult caregiving tasks should be determined in FCGs who care for HF patients for at least three months. Effective strategies to deal with difficult caregiving tasks must be integrated into an intervention program. The intervention program should include the aspects of difficult caregiving tasks that can help FCGs to deal with HF caregiving tasks. For example, FCGs reported that medical care, particularly controlling sodium in the diet of a patient, involved the most difficult caregiving tasks. Therefore, strategies to control sodium in the diet of HF patients should be included in the intervention program.

Social support is a significant factor that can moderate levels of role conflict and role strain. Clinician nurses should focus on this point, and they should help develop a network of social support for FCGs. Support from family, friends, and other people in the community show significant influence on levels of role conflict and role strain. Nurses should determine levels of social support in FCGs of HF patients. If FCGs have low levels of social support, nurses should encourage FCGs to find informal support from their family members, friends, or neighbors. Additionally, nurses should work with FCGs and family members to develop networks of social support to care for HF patients, such as volunteers, peer groups, and neighbors. FCGs may receive information, experience, and assistance in caring for HF patients through this network or informal support. Social support can help FCGs to manage their caregiver responsibilities by helping them deal with a caregiving role and other role obligations, leading them to experience low levels of role conflict and role strain.

Buddhist belief and participation in Buddhist activities should be integrated in the intervention program for FCGs of HF patients. Like the previous discussion of the results in relation to advanced nursing science, the belief in the Buddhist Karma Rule and participation in Buddhist activities moderated caregiver role conflict and role strain and are the innovative results of this study. Clinician nurses should develop appropriate Buddhist activities for intervention programs that can reduce role conflict and role strain in FCGs. In Thailand, nurses frequently facilitate patients and their FCGs involvement in religious activities, particularly Buddhism. This role of Thai nurses may be different from nurses in other countries. Thai nurses generally facilitate FCGs and patients to participate in practicing Buddhism, or other religious activities. Health care providers and nurses may prepare a person who can lead patients and FCGs to pray or do meditation. Additionally, nurses may prepare locations for religious practice; and books, pamphlets, or videos of religious teachings for patients and FCGs in outpatient and inpatient departments. For example, nurses may prepare religious pamphlets or books for patients and FCGs to read while waiting to use hospital services. Additionally, nurses and other health care providers can also prepare a location for practicing religious activities, such as a private room with Buddhist icons for praying or meditating. These services could help FCGs and HF patients to have an opportunity to practice Buddhism and to deal with their emotional distresses.
In summary, the study results provide implications for nursing practice that include the need to develop nursing care, screening programs, and intervention programs for FCGs who care for HF patients and other chronically ill patients. FCGs who tend to experience role conflict and role strain should be cared for by health care providers. Nurses should care for FCGs of HF patients by applying strategies to prevent and relieve caregiver role conflict and role strain in vulnerable FCG populations. In addition, nurses can develop and use a screening program to examine levels of role conflict and role strain in FCGs. For example, nurses should determine levels of role conflict and role strain in vulnerable FCGs who are female, have low physical function, and have high levels of difficult caregiving tasks. FCGs of an HF patient with functional class III and IV should be included in the intervention program. The intervention program for high levels caregiving tasks and developing social support. The intervention program should also help FCGs and HF patients gain access to resources that allow them practice their religion. These strategies will enhance the health status of FCGs of HF patients.

Implications for Research

This study shows interesting results regarding significant factors as well as moderating factors that influenced levels of caregiver role conflict and role strain. Predictors of caregiver role conflict and role strain were found and included caregiver gender, HF patient functional class based on FCG perception, difficult caregiving tasks, social support, physical function, and participation in Buddhist activities. These results provide evidence for future research. Particularly, difficult caregiving tasks should be investigated in future research in order to examine specific difficult care tasks that influence levels of role conflict and role strain. Specific care tasks that affect levels of caregiver role conflict and role strain should be investigated in

different groups of FCGs. Future research regarding how specific caregiving tasks influence role conflict and role strain should be conducted under the research question "How do the most difficult caregiving tasks influence higher levels of role conflict and role strain?" Study results will reveal the most difficult caregiving tasks that influence the highest levels of caregiver role conflict and role strain. These results will provide implications to nursing practice on how to deal with the perceived most difficult caregiving tasks of FCGs.

Additionally, caregiver social support, the belief in the Buddhist Karma Rule, and participation in Buddhist activities are found to be moderating factors of the relationship between role conflict and role strain. These are innovative results that have implications for further study. Future research should focus on the moderating effect of caregiver social support on the relationship between role conflict and role strain. Informal social support, particularly support from family, friends, and other persons, should be investigated in other groups of FCGs such as urban FCGs. Specific strategy to develop strong support from family, friends, and the community to assist FCGs caring for HF patients should be examined. The research question should be "How does strong social support improve levels of caregiver role strain in FCGs of HF patients?"

The belief in the Buddhist Karma Rule and participation in Buddhist activities were found to moderate levels of the relationship between caregiver role conflict and role strain, as shown in study results. Each specific type of Buddhist activity that affects levels of role conflict and role strain in FCGs should be further examined. Further study regarding the belief in the Buddhist Karma Rule should be investigated in a large sample size of FCGs. Participants in this study were dominantly Buddhist followers. The different influences of the belief in the Buddhist Karma Rule compared to other religious beliefs that can reduce levels of caregiver role conflict and role strain should be investigated. Additionally, different levels of the belief in the Buddhist Karma Rule and participation in Buddhist activities in male and female caregivers that affect levels of caregiver role conflict and role strain need to be investigated in future studies. The research question of future studies should be "How does intensity of the belief in the Buddhist Karma Rule influence levels of role conflict and role strain in male and female FCGs of HF patients?", or "How does frequency of participation in Buddhist activities affect levels of role conflict and role strain in male and female FCGs of HF patients?"

Participation in Buddhist activities as a moderating factor needs to be extensively examined in future research. Participation in Buddhist activities should be examined in a large sample size of various groups of FCGs of chronically ill patients. Participation in religious activities of other faiths, such as Islam and Christianity, should be determined for their effects on levels of caregiver role conflict and role strain. Future research should be conducted under the research question "How does religious participation (Buddhism, Islam, Christianity, and other religions) influence levels of role conflict and role strain in FCGs?" Additionally, specific Buddhist activities that influence the level of role conflict and role strain should be determined. The research question of future studies regarding specific Buddhist activities should be "How do Buddhist activities that include praying, meditating, making a donation, and giving food to monks influence levels of role conflict and role strain in FCGs?"

An intervention trial study should be conducted to determine levels of role conflict and role strain in FCGs before and after they attend intervention programs that include strategies to deal with difficult caregiving tasks or methods to relieve role conflict and role strain. Intervention programs for FCGs who experience role conflict and role strain were discussed in the implication for nursing practice section. The intervention trial study will show the effective results of intervention program testing. A comparison regarding the effect of the intervention program in an experimental group and a control group of FCGs should be determined. These results will help create an effective program that can be implemented in other groups of FCGs who experience role conflict and role strain.

In summary, results of this study can be further studied for determining in-depth analyses of gender on levels of difficult caregiving tasks, specific types of difficult caregiving tasks affecting role conflict and role strain, and variation of levels of the belief in the Buddhist Karma Rule and types of participation in Buddhist activities in different groups of FCGs. Intervention programs for FCGs of HF patients may help them by including strategies to deal with difficult caregiving tasks, to create positive views of a caregiving role based on the belief in the Buddhist Karma Rule, and to prevent role conflict and role strain by practicing Buddhist activities such as meditation and prayer. Additionally, intervention trial studies of caregiver role conflict and role strain are also suggested. Results from an intervention trial will be useful for the implementation of an intervention program to relieve levels of role conflict and role strain in vulnerable FCGs.

Implications for Policy

Results of this study reveal the trend of caregiver role conflict and role strain in FCGs of HF patients in rural areas of eastern Thailand. FCGs in rural areas of Thailand experience limited care from health care providers. Levels of caregiver role conflict and role strain in FCGs of HF patients did not receive appropriate care. The study results can be used by health care policymakers to develop a health care plan to care for FCGs of HF patients. The number of FCGs who experience role conflict and role strain needs to be determined, along with the trend of role conflict and role strain problems in vulnerable FCG populations. Health care systems in Thailand have mainly focused on patient care and have less focus on FCGs. This may lead to

eventual health problems for FCGs and may have indirect effects to HF patients. Health care policy and protocol need to be developed to allow for better-coordinated care for FCGs who experience role conflict and role strain.

Care for FCGs who experience caregiver role conflict and role strain is not provided in health care settings, particularly in rural health care settings. Health care policy and protocol to care for FCGs of HF patients in primary care units and rural health care settings need to be developed. As we know, FCGs are hidden patients who need effective care since they are a vulnerable group. Explicit policy and protocol for FCGs should be demonstrated at all levels of health care systems. The cooperation of all levels of health care settings is needed to provide better care for FCGs.

Universal health care has been utilized in Thailand since 2000. Each year, the Thai government spends a large amount of health care expenditure to provide care for HF patients. To improve the quality of care for HF patients at a low cost, health care policymakers need to develop standard guidelines and protocol to care for FCGs of chronically ill patients. FCGs are a primary source of care for HF patients, and these FCGs can help to improve HF patient health status. If these FCGs experience health problems, they cannot provide care to HF patients, and these patients may experience health problems and complications.

In summary, the study results provide implications to policymakers. Guidelines and protocol to provide care for FCGs who experience role conflict and role strain are needed. Procedure for standards of care among health care settings needs to be clearly indicated by health care policy.

Summary

The purpose of the study was to explore the relationship between FCG and HF patient characteristics, difficult and time consuming caregiving tasks, and role conflict and role strain. Significant predictors and moderating factors of role conflict and role strain were indicated. Results of this study provide implications for nursing practice, research, and policy. Nursing clinicians can utilize study results to provide effective care or create intervention programs for FCGs of HF patients. Screening programs to determine levels of role conflict and role strain in FCGs of HF patients or other chronically ill patients need to be developed to examine trends of this problem in vulnerable groups. Health care policymakers can develop policy or procedure to get health care providers and health care settings to provide standard care to FCGs of HF patients. Additionally, results regarding the belief in the Buddhist Karma Rule and participation in Buddhist activities that can moderate levels of role conflict and role strain support nursing science knowledge. Also, specific activities of Buddhism that enhance the emotional status of FCGs need to be examined.

APPENDICES

APPENDIX A

Study Instrument

Title: Perceived Role Strain in Thai Family Caregiver of Heart Failure Patients

Researcher: Ms. Arunee Chaiyarit, RN, MSN, Doctoral Student, College of Nursing Michigan State University, Principal Investigator.

Dr. Barbara Given, RN, PhD, FAAN, University Distinguished Professor, College of Nursing Michigan State University, Major Professor

This questionnaire has been designed to collected data from study participants who are family caregivers of heart failure patients in rural eastern Thailand. Family caregivers will be asked to complete their personal information and subjective experience about a care giving role. To collect data from family caregivers in rural eastern Thailand is a part of dissertation paper of College of Nursing, Michigan State University, which aims to gather data by capturing caregiver perspective regarding role conflict and role strain due to providing care for heart failure patients. *In the following sections, the word "you" are used to represent "a family caregiver."*

This questionnaire includes six instruments. First, you are asked to complete your personal information and heart failure patient information, Buddhist Karma Rule belief and severity of heart failure patient based on your perception in the socio-demographic questionnaire. Some questions in the socio-demographic questionnaire can be *checked one or more based on the specific instruction* of each question.

Second, you will be asked to complete your physical ability to do daily activities by answering questions of the physical function. You will be asked to rate your activities that you might do during a typical day that include "*limited a lot, limited a little and not limited at all. You can check one for each question.*

Third, you will rate your perception about level of social support that you received from family, friend and significant people using the Social Support Scale. This is on a 7-point scale: very strongly disagree to very strongly agree. You can check one for each question.

Fourth, you will be asked to rate your perception about difficulty and time consuming heart failure caregiving tasks in the Oberst Caregiving Task Scale. This instrument includes 15 questions with 5-point scale: *not difficult to extremely difficult, or none to a great amount of time consuming. You can check one for each question.*

Fifth, you will be asked to rate your perception about how your caregiving role interfere with other role such as spouse, parent and work role in the Role Conflict Scale. This instrument uses a 5-point scale: *not at all to a great deal. You can check one for each question.*

Sixth, finally you will be asked to rate your levels of role strain by using the Global Role Strain Scale. *Responses can range from not at all or never to very much or a lot. You can check one for each question.*

Your input is greatly appreciated and should take about 30 minutes.

Thank you very much for participating in this study.

Caregiver Socio-demographic Questionnaire

Please complete the following questions about your personal information and heart failure patient. Please write your answer in the blank, or check the box where there are check boxes. Some questions can be checked more than one box, please carefully read the instruction of each question.

- (1) What is your age? ______years (write in the number of years of age)
- (2) What is your gender? (check one box)

□ Male	Female
(3) What is your education?	_years (write in the total number of years completed)
(4) What is your relationship to the patient a	as his /her caregiver? (check one box)
 □ Spouse □ Grandson/granddaughter □ Daughter-in-law/son-in-law 	 Daughter/son Sister/brother Other relatives (please specify)
(5) What is your household income a month	(Baht/Dollar)? (check one box)
□ Below 2000/\$0-69	□ 2001 -5000/\$70-169
□ 5001-10000/\$170-333	□ 10001 -20000/\$333 and over
(6) What is your current employment status	? (check one box)
□ Not working	□ Working part-time
U Working full-time	□ Retired to provide care
(7) How does your decision to be a caregive (check for all that apply)	er of heart failure patient affect your work role?
□ Not affected work hours	□ Reduced work hours
□ Increased turnover rate	□ Increased absence from work

- \Box Quit the job to provide care \Box Other (please specify)
- (8) How many family roles that you perform? (check for all that apply)

□ Spouse	□ Son	□ Daughter	□ Father	\square Mother
□ Grandfather	r/grandmother	□ Niece/nephew	\Box Friend	
\Box Other role (please specify)			

- (9) How many hours do you provide medical care such as medication administration, symptom monitoring and sodium control for a heart failure patient a week? (Please specify) hours
- (10) How many hours do you provide physical care such as walking, bathing, shopping and preparing meal for a heart failure patient a week? (Please specify)______hours

- (11) How many hours do you provide emotional care such as emotional support for a heart failure patient a week? (Please specify)_____hours
- (12) What is your religion? (check one box)
 - \Box Buddhism \Box Islam (go to 15)
 - \Box Christianity (go to 15) \Box Other (please specify) (go to 15)
- (13) Please check to what extent you would like the following things in return when you decide to provide care for a heart failure patient? (check one box)
- a. Happiness (check one box)
 - A great amount
 A large amount
 A moderate amount
 A small amount
 None
- b. Social recognition (check one box)
 - \Box A great amount
 - \Box A large amount
 - \square A moderate amount
 - \Box A small amount
 - \square None
- c. Received recognition in a good deed in this life for the next life
 - A great amount
 A large amount
 A moderate amount
 A small amount
 None
- d. Assistance from family members when you need. (check one box)
 - A great amountA large amount
 - \square A moderate amount
 - \square A small amount
 - \square None

(14) Please check to what extent you participate in religious activities (at least one activity) such as praying, going to temple, giving food to monks, doing meditation and donation?

a. Praying (Check	\Box Once a	\Box Once a	\Box Once a	\Box Less than	□ Not at all
one)	day	week	month	once a month	

b. Giving food to monks (Check one)	□ Once a day	□ Once a week	□ Once a month	□ Less than once a month	□ Not at all
c. Going to temple (Check one)	□ Once a day	□ Once a week	□ Once a month	□ Less than once a month	□ Not at all
d. Doing meditation (check one)	□ Once a day	□ Once a week	□ Once a month	□ Less than once a month	□ Not at all
e. Donation (Check one)	□ Once a day	□ Once a week	□ Once a month	□ Less than once a month	□ Not at all
f. Other (please specify)	□ Once a day	□ Once a week	□ Once a month	□ Less than once a month	□ Not at all
(Check one)					

(15) Why do you provide care for a heart failure patient? (check for all that apply)

- □ Duty of family members
- □ Received good things such as happiness, merit and assistance in return
- \square Care for love one
- Other reasons (please specify)
- (16) What is the **main** reason that you provide care for a heart failure patient? (check one box)
 - □ Duty of family members
 - □ Received good things such as happiness, merit and assistance in return
 - \Box Care for love one
 - □ Other reasons (please specify)_____
- (17) What are the sources of your emotional, financial, social or physical support to care for a heart failure patient? (check one box or more)
 - \Box Family members \Box Friends \Box Colleagues

Unpaid volunteers	Neighbors	Peer group
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- Other (please specify)
- (18) What is patient's age? ______years (write in the number of year of age)
- (19) What is patient's education?______ years (write in the total number of years completed)
- (20) What is patient's gender (check one box)

 \square Male

(21)Now we would like to ask you to rate your perception about the severity of the heart failure patient.

-Based on your perception, please rate the level of limitation of a heart failure patient when he/she perform ordinary physical activities such as climbing stairs, eating, walking and lifting objects.

a. No limitation (check one box)		
□ Yes (done)		No (go to b.)
b. Slight limitation (check one box)		
□ Yes (done)		No (go to c.)
c. Marked limitation (check one box)		
□ Yes (done)		No (go to d.)
d. Unable to carry out any physical activitie	es (c	heck one box)
\Box Yes		□ No

The Physical Functioning of Short-Form Health Survey (PF)

The following items are about activities you might do during a typical day. **Does your health now limit you** in these activities? If so, how much?

(1) <u>Vigorous activities, such as running, lifting heavy objects, participating in</u> strenuous sports?

 \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

- (2) <u>Moderate activities,</u> such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?
 - \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all
- (3) Lifting or carrying groceries?
 - \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

(4) Climbing **several flights** of stairs?

 \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

- (5) Climbing **one** flight of stairs?
 - \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all
- (6) Bending, kneeing or stooping?
 - \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

(7) Walking **more than a mile**?

 \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

- (8) Walking several blocks?
- 1. Yes, limited a lot 2. Yes, limited a little 3. No, not limited at all
 Walking one block?
 - \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all
- (10) Bathing or dressing yourself?

 \Box 1. Yes, limited a lot \Box 2. Yes, limited a little \Box 3. No, not limited at all

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

	Circle the "1" if you Very Strongly Disagree							
	Circle the "2" if you Strongly Disagree							
	Circle the "3" if you Mildly Disagree							
	Circle the "4" if you are Neutral							
	Circle the "5" if you Mildly Agree							
	Circle the "6" if you Strongly Agree							
	Circle the "7" if you Very Strongly Agree							
1.	There is special person who is around when	1	2	3	4	5	6	7
	I am in need							
2.	There is a special person with whom I can	1	2	3	4	5	6	7
	Share my joys and sorrows							
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help and support I need from	1	2	3	4	5	6	7
	My family							
5.	I have a special person who is a real source of	1	2	3	4	5	6	7
	comfort to me.							
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count my friend when things	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friend with whom I can share my joys	1	2	3	4	5	6	7
	and sorrows.							
10.	There is a special person in my life who cares	1	2	3	4	5	6	7
	about my feelings.							
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7

Oberst Caregiving Burden Scale

This group of questions is about the tasks and activities that you do to help the heart failure patients. For each of the following activities, please mark how much time you spend and how difficult activity is for you to do.

Time	Difficulty
5= A great amount	5= Extremely difficult
4= A large amount	4= Very difficult
3= A moderate amount	3= Moderately difficult
2= A small amount	2= Strongly difficult
1= None	1= Not difficult
	• •• • • • · · ·

1) Medical and nursing treatment (giving medications, skin care, dressing etc.):

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

2) Personal care (bathing, toileting, getting dressed, eating, etc.):

□ A great amount	□ Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

3) Assistance with walking, getting in and out of bed, exercise, etc.:

□ A great amount	□ Extremely difficult
□ A large amount	□ Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult
support "being there" for the patien	t•

4) Emotional support, "being there" for the patient:

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
\Box A small amount	□Strongly difficult
□ None	□ Not difficult

5) Watching for and reporting the patient symptoms, watching how the patient doing, monitoring the patient progress:

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

6) Providing transportation or "company" (driving, riding along with patient, going to appointments, driving patients around for errant's, etc.):

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

7) Managing finances, bills, and forms related to the patients illness:

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	Not difficult

8) Additional household tasks for the patient (laundry, cooking, cleaning, yard work, home repairs, etc):

□ A great amount	□ Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

9) Additional tasks outside the home for the patient (shopping for food and clothes, going to bank, running errands, etc.)

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

10) Structuring/planning activities for the patients (recreations, rest, meals, thing for the patient to do)

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

11) Managing behavior problems (moodiness, irritability, confusion, memory loss, etc.):

□ A great amount	□ Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

12) Finding and arranging someone to care for the patient while you are away:

□ A great amount	Extremely difficult
□ A large amount	□ Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

13) Communication (helping the patient with at least one of the following activities: phone, writing or reading, explaining things, trying to understand what the patient is trying to say, etc.)

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
\Box A small amount	□Strongly difficult
□ None	□ Not difficult

14) Coordinating, arranging, and managing services and resources for the patient (scheduling appointment, arranging transportation, locating equipment and services, and finding outside help):

□ A great amount	Extremely difficult
□ A large amount	Very difficult
□ A moderate amount	□ Moderately difficult
□ A small amount	□Strongly difficult
□ None	□ Not difficult

15) Seeking information and taking with doctors, nurses and other professional health care workers about the patient's condition and treatment plans:

- □ A great amount
- \square A large amount
- \square A moderate amount
- \square A small amount
- \square None

Extremely difficult
Very difficult
Moderately difficult
Strongly difficult
Not difficult

Role Conflict Scale

These questions focus on the different roles you may have and the extent to which your caregiving interferes with these other roles. If the role listed does **not** apply to you, check the box $\checkmark \square$ at the right.

To what extent does caring for your family member interfere with your ability to be ...

Circle the "0" if you are Not at all Circle the "1" if you are a Little Circle the "2" if you are Some Circle the "3" if you are quite a bit Circle the "4" if you are a great deal 1. the kind of spouse or partner you think you should be? \Box Not apply 2. the kind of parent you think you should be? \Box Not apply 3. the kind of daughter/son you think you should be? \Box Not apply 4. the kind of sister/brother you think you should be? \Box Not apply 5. the kind of grandparent you think you should be? \Box Not apply 6. the kind of relative you think you should be to people other than those listed in Q1-Q5? \Box Not apply 7. the kind of friend you think you should be to other people? \Box Not apply 8. the kind of worker you think you should be outside the house? \Box Not apply 9. the kind of worker you think you should be around or in the house? \Box Not apply 10. the kind of student you think you should be? \Box Not apply 11. active in your religious group in the way you think you should be?

 $0 \qquad 1 \qquad 2 \qquad 3 \qquad 4 \qquad \Box \text{ Not apply}$

12. active in the community in the way you think you should be?

 $0 \quad 1 \quad 2 \quad 3 \quad 4 \quad \Box \text{ Not apply}$

13. good to yourself?

 $0 \qquad 1 \qquad 2 \qquad 3 \qquad 4 \qquad \Box \text{ Not apply}$

14. To what extent do your other responsibilities interfere with your ability to care for your family member in the way you would like to?

 $0 \qquad 1 \qquad 2 \qquad 3 \qquad 4 \qquad \Box \text{ Not apply}$

Global Role Strain Scale

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

1. From our discussions with many caregivers, we know that for some people, caregiving is very confining, while for others, it is not. How confined do you feel because of all the caregiving things you do for your family member?

Not at all confined	0
Confined a little	1
Somewhat confined	2
Confined a lot	3
Extremely confined	4

2. How often would you say that taking care of your family member is very difficult?

Never	0
Rarely	1
Sometimes	2
Much of the time	3
Always	4

3. How much stress do you feel because of **all** your obligations, including taking care of your family member?

No stress	0
Very little stress	1
Some stress	2
A lot of stress	3
Overwhelming stress	4

4. How much of the time do you feel you are patient in caring for your family member?

Never	0
Rarely	1
Sometimes	2
Most of the time	3
Always	4

5. Overall, would you say that the positive aspects of caring for your family member outweigh the negative, that the negative aspects outweigh the positive, or that the positive and negative aspects are about equal?

Positive outweighs the negative	<i>a lot</i> 4
Positive outweighs the negative	<i>somewhat</i> 3
Positive and negative are about	<i>equal</i> 2
Negative outweighs the positive	somewhat1
Negative outweighs the positive	<i>a lot</i> 0

6. The needs of people who are receiving care change with time as do yours. Would you say that, as time goes on, giving care to your family member has:

Become much easier for you
Become somewhat easier for you
Stayed about the same for you 2
Become somewhat more difficult for you1
Become much more difficult for you0

7. What if your family member's care needs increase? How confident are you that you would be able to provide more care than you are doing now?

Not at all confident	0
Not too confident	1
Somewhat confident	. 2
Pretty confident	. 3
Very confident	4

ชื่อเรื่อง: การศึกษาระดับความเครียดในบทบาทจากการรับรู้ของผู้ดูแลผู้ป่วยโรคหัวใจวายในประเทศไทย

ผู้วิจัย: นางสาวอรุณี ไชยฤทธิ์ พยาบาลวิชาชีพ 7, นักศึกษาปริญญาเอก มหาวิทยาลัยมีชิแกน สเตต ยูนิเวอร์ซิตี้ ศาสตราจารย์ ดร. บาบาร่า กิฟเว่น, ดุษฏีบันทิต. ศาสตราจารย์

แบบสอบถามฉบับนี้มีวัตถุประสงค์ในการเก็บข้อมูลในกลุ่มผู้ดูแลผู้ป่วยโรคหัวใจวายในเขตจังหวัดฉะเซิงเทราและ จังหวัดอื่นๆ ในเขตภาคตะวันออกของประเทศไทย ผู้ดูแลผู้ป่วยจะเป็นผู้กรอกแบบสอบถามฉบับนี้เกี่ยวกับข้อมูลส่วนตัวของ ผู้ดูแลและผู้ป่วย การเก็บข้อมูลการวิจัยครั้งนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ปริญญาเอก คณะพยาบาลศาสตร์ มหาวิทยาลัย มิชิแกน สเตต ยูนิเวอร์ซิตี้ ซึ่งมุ่งศึกษาระดับความขัดแย้งในบทบาทผู้ดูแลผู้ป่วยโรคหัวใจ <u>ต่อไปนี้จะใช้คำว่า "ท่าน" แทน</u> <u>"ผู้ดูแล</u>"

แบบสอบถามฉบับนี้ประกอบด้วย 6 แบบสอบถามย่อย แบบสอบถามย่อยที่หนึ่ง ท่านกรอกข้อมูลส่วนตัวของท่าน และผู้ป่วยโรคหัวใจวาย คำถามส่วนใหญ่ตอบได้หนึ่งคำตอบ แต่บางคำถามสามารถตอบได้มากกว่าหนึ่งคำตอบ <u>โปรดกรุณา</u> <u>อ่านคำถามอย่างระมัดระวัง</u>

แบบสอบถามย่อยที่สอง ท่านจะต้องกรอกข้อมูลเกี่ยวกับระดับความสามารถในการปฏิบัติกิจวัตรประจำวันของท่าน คำตอบจะอยู่ระหว่าง มีข้อจำกัดเล็กน้อย มีข้อจำกัดปานกลาง และมีข้อจำกัดมาก ท่านสามารถตอบได้หนึ่งคำตอบในแต่ละ คำถาม

แบบสอบถามย่อยที่สาม ท่านต้องให้คะแนนเกี่ยวกับระดับการช่วยเหลือที่ท่านได้รับจาก ครอบครัว เพื่อนและบุคคล อื่นๆ ในการดูแลผู้ป่วยโรคหัวใจวาย ท่านสามารถตอบตอบได้หนึ่งคำตอบในแต่ละคำถาม

แบบสอบถามย่อยที่สี่ ท่านจะถูกขอร้องให้ ให้คะแนนเกี่ยวกับระดับความยากของงานการดูแลผู้ป่วยโรคหัวใจ และ ปริมาณของการใช้เวลาในการดูแลผู้ป่วย *ท่านสามารถตอบได้หนึ่งคำตอบในแต่ละคำถาม*

แบบสอบถามย่อยที่ห้า ท่านต้องตอบคำถามเกี่ยวกับ บทบาทการดูแลของท่านไปกระทบการทำบทบาทอื่นๆเช่น พ่อ, แม่, คนงาน, นักเรียน เป็นต้น หรือไม่ *ท่านสามารถตอบได้หนึ่งคำตอบในแต่ละคำถาม*

แบบสอบถามย่อยที่หก ท่านต้องตอบคำถามเกี่ยวกับ บทบาทการดูแลของท่าน ทำให้ท่านรู้สึกอึดอัด เครียด หรือ ยุ่งยากหรือไม่ *ระดับคำตอบประกอบด้วย ท่านสามารถตอบได้หนึ่งคำตอบในแต่ละคำถาม*

<u>เป็นความกรุณาอย่างสูงที่ท่านให้ความร่วมมือในการตอบแบบสอบถามซึ่งใช้เวลาประมาณ 30 นาที</u>

ข้อมูลส่วนบุคคลของผู้ดูแลและผู้ป่วยหัวใจวาย

<u>โปรดทำเครื่องหมาย X ลงในช่องสี่เหลี่ยมหน้าข้อมูล หรือกรอกข้อมูลลงในช่องว่างที่ตรงความเป็นจริงมากที่สุด</u>

1.	1. อายุของท่าน (ผู้ดูแลผู้ป่วยโรคหัวใจวาย) (ปี)	(กรอกข้อมูลในช่องว่าง)
2.	2. เพศของท่าน (ผู้ดูแลผู้ป่วยโรคหัวใจวาย) 🛛 ชาย	🗆 หญิง
3.	 การศึกษาของท่าน (ผู้ดูแลผู้ป่วยโรคหัวใจวาย) 	(กรอกข้อมูลในช่องว่าง)
4.	 ความเกี่ยวข้องของท่านกับผู้ป่วย (กรุณาเลือกหนึ่งคำตอง 	(۲
	🗆 คู่สมรส 🛛 บุตร 🗆 เ	หลาน □ น้องสาว/น้องชาย
	🗆 ลูกเขย/ลูกสะใภ้ 🗆 พ่อ/แม่ 🛛 อื่นๆ (โปรเ	าระบุ)
5.	 ท่านมีรายได้ของครอบครัวต่อเดือนเท่าไร (บาท) (กรุณาเล 	ลือกหนึ่งคำตอบ)
	🗆 ต่ำกว่า 2000 บาท 🛛 🗆 2001 -5000 บาท	่ 5001-10000 บาท
	🗆 10001-20000 บาท 🛛 20001 หรือมากกว่า	
6.	 สถานภาพการทำงานของท่านในปัจจุบัน (กรุณาเลือกหนึ่ 	งคำตอบ)
	🗆 ไม่ได้ทำงาน (ทำข้อ 8) 🛛 🗆 ทำงานเต็ม	แวลา (ทำข้อ 7)
	🗆 เกษียณ (ทำข้อ 8) 🛛 🗆 อื่นๆ (โปร	าวะบุ)
7.	 การที่ท่านดูแลผู้ป่วยโรคหัวใจมีผลกระทบต่อการทำงานน 	อกบ้านของท่านอย่างไรบ้าง (กรุณาเลือกหนึ่งคำตอบ)
	🗆 ไม่มีผลกระทบ 🗆 พิ่มจำนวนวันลางา	น 🗆 ลดซั่วโมงการทำงาน
	🗆 ขาดงานบ่อย 🛛 ลาออกจากงาน	🗆 อื่นๆ (โปรดระบุ)
8.	8. ปัจจุบันท่านทำหน้าที่อะไรบ้าง (เลือกได้มากกว่า หนึ่งคำต	าอบ)
	🗆 คู่สมรส 🗆 ลูกชาย 🗆 ลูกสาว	🗆 พ่อ 🛛 แม่
	🗆 ปู่/ย่า หรือ ตา/ยาย 🛛 ลูกจ้าง	🗆 เพื่อน 🗆 อื่น ๆ (โปรดระบุ)
9.	 จำนวนชั่วโมงในหนึ่งวันที่ท่านให้การดูแลผู้ป่วยด้านการรั ควบคมเกลือในอาหาร เป็นต้น/โปรดระบ) 	าษาพยาบาลทั้งหมดเช่น ดูแลให้ยา, ให้อ๊อกซิเจนและ ชั่วโมง

- จำนวนชั่วโมงในหนึ่งวันที่ท่านให้การดูแลผู้ป่วยเวลาผู้ป่วยมีความเครียดหรือหงุดหงิด เช่น พูดคุยปลอบโยน
 เวลาผู้ป่วย, นั่งฟังปัญหาที่ผู้ป่วยระบายให้ฟังหรืออยู่เป็นเพื่อนเวลาผู้ป่วยมีปัญหาด้านอารมณ์และจิตใจ (โปรด ระบุ) ชั่วโมง
- 12. ท่านนับถือศาสนาอะไร (กรุณาเลือกหนึ่งคำตอบ)

□ พุทธ □ อิสลาม (ข้ามไปข้อ 15) □ คริสต์ (ข้ามไปข้อ 15)

🗆 อื่น ๆ (โปรดระบุ)______ (ข้ามไปข้อ 15)

13. การที่ท่านดูแลผู้ป่วยเพราะท่านคิดว่าเป็นการทำความดีและท่านคิดว่าท่านจะได้รับสิ่งใดต่อไปนี้ตอบแทน

<u>โปรดทำเครื่องหมาย X ลงในช่องที่ตรงกับความรู้สึกของท่านมากที่สุด</u>

ก. ได้บุญ	🗆 ไม่เห็นด้วย	🗆 เห็นด้วยน้อย	🗆 ปานกลาง	🗆 เห็นด้วยมาก	🗆 เห็นด้วยมากที่สุด
ข. มีความสุขใจ	🗆 ไม่เห็นด้วย	🗆 เห็นด้วยน้อย	🗆 ปานกลาง	🗆 เห็นด้วยมาก	🗆 เห็นด้วยมากที่สุด
ค. ได้รับการดูแลตอบแทน	🗆 ไม่เห็นด้วย	🗆 เห็นด้วยน้อย	🗆 ปานกลาง	🗆 เห็นด้วยมาก	🗆 เห็นด้วยมากที่สุด
เมื่อเจ็บป่วยหรือแก่ตัวลง					
ง. ได้รับการยอมรับจาก	🗆 ไม่เห็นด้วย	🗆 เห็นด้วยน้อย	🗆 ปานกลาง	🗆 เห็นด้วยมาก	🗆 เห็นด้วยมากที่สุด
สังคม					

14. การเข้าร่วมกิจกรรมทางศาสนาของท่านเช่น ทำบุญ, ใส่บาตร, นั่งสมาธิ, สวดมนต์ หรือถือศีล อย่างน้อยหนึ่ง

กิจกรรม **โปรดทำเครื่องหมาย X ลงในช่องที่ตรงกับความรู้สึกของท่านมากที่สุด**

ก. สวดมนต์ (ตอบหนึ่ง	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
คำตอบ)				เดือนละครั้ง	
ข. ใส่บาตร (ตอบหนึ่งคำตอบ)	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
				เดือนละครั้ง	
ค. ไปวัด (ตอบหนึ่งคำตอบ)	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
				เดือนละครั้ง	
ง. นั่งสมาธิ (ตอบหนึ่งคำตอบ)	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
				เดือนละครั้ง	
จ. ทำบุญ ทำทาน บริจาคเงิน	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
หรือสิ่งของ (ตอบหนึ่งคำตอบ)				เดือนละครั้ง	
ฉ. อื่น ๆ(โปรดระบุ)	🗆 วันละครั้ง	🗆 สัปดาห์ละครั้ง	🗆 เดือนละครั้ง	🗆 น้อยกว่า	🗆 ไม่เคยเลย
(ตอบหนึ่งคำตอบ)				เดือนละครั้ง	

15.	15. สาเหตุจูงใจที่ทำให้ท่านดูแลผู้ป่วย (ตอบได้มากกว่าหนึ่งข้อ)				
	🛯 หน้าที่ของ สามี, ภรรยา,บุตร, พ่อ, แม่, พี่, น้อง หรือญาติ (อย่างใดอย่างหนึ่ง)				
	🗆 ต้องการทำความดี 🛛 ดูแ	ลคนที่รัก	🗆 อื่นๆ (โปร	าดระบุ)	
16.	สาเหตุจูงใจ <u>หลัก</u> ที่ทำให้ท่านดูแลผู้ปวย (ต	ตอบหนึ่งข้อเท่	านั้น)		
	🗆 หน้าที่ของสามี, ภรรยา, บุตร พ่อ	แม่ พี่น้อง หรื	่อญาติ (อย่างใดอย่าง	หนึ่ง)	
	🗆 ต้องการทำความดี 🛛 ดูแ	ลคนที่รัก	🗆 อื่นๆ(โปร	รดระบุ)	
17.	ผู้ที่ให้การช่วยเหลือท่านด้านร่างกาย, จิต	ใจ และเงิน ใเ	เการดูแลผู้ป่วย (เลือก	ได้มากกว่าหนึ่งคำตอบ)	
	🗆 ไม่มี 🛛 ต สมาชิกในครอ	บครัว เช่น บุต	าร พ่อแม่ พี่น้อง สามี <i>ร</i>	กรรยา หรือ ญาติ	
	🗆 เพื่อน 🗆 เพื่อนร่วมงาน	🗆 สมาชิกจิ	ัตอาสา 🗆 เท็	ขื่อนบ้าน	
	🗆 กลุ่มผู้ดูแลด้วยกัน	🗆 อื่น (โปร	ดระบุ)		
18.	อายุของผู้ป่วย (ปี) (กระ	บกข้อมูลในช่อ	งว่าง)		
19.	การศึกษาของผู้ป่วย	(กร	รอกข้อมูลลงในช่องว่า _ง	3)	
20.	เพศของผู้ป่วย (กรุณาเลือกหนึ่งคำตอบ)		ชาย	□ หญิง	
 กรุณาระบุความสามารถในการปฏิบัติกิจวัตรประจำวัน (กินข้าว, อาบน้ำ, เดินเข้าห้องน้ำ เป็นต้น) ของผู้ป่วย โรคหัวใจที่ท่านดูแลตามความเป็นจริง (กรุณาเลือกหนึ่งคำตอบ) 					
	n. ไม่มีข้อจำกัด	🗆 ใช่ (ไม่เ	^ล ้องทำข้อ ข, ค และ ง)	🗆 ไม่ใช่ (ทำข้อ ข)	
	ข. มีข้อจำกัดเล็กน้อย	🗆 ใช่ (ไม่เ	เ รื่องทำข้อ ค และ ง)	🗆 ไม่ใช่ (ทำข้อ ค)	
	ค. มีข้อจำกัดอย่างมาก	🗆 ใช่ (ไม่ไ	ต้องทำข้อ ง)	🛛 ไม่ใช่ (ทำข้อง)	

ง. ไม่สามารถทำกิจวัตรประจำวันได้เอง 🗆 ใช่ 🗆 ไม่ใช่

แบบวัดสมรรถนะด้านร่างกาย

1.	<u>กิจกรรมที่ใช้แรงมาก</u> เช่น กา	เรวิง การยกของหนัก การเล่น	กีฬาที่ต้องออกแรงมาก
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
2.	<u>กิจกรรมที่ใช้แรงปานกลาง</u>	เช่น การย้ายโต๊ะ การกวาดพื้เ	<i>เ</i> การทำสวน การป [ั] นจักรยาน หรือการว่ายน้ำ
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
3.	การยกหรือถือถุงใส่ของชำ		
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
4.	การเดินขึ้นบันไดขึ้นตึก <u>2-3</u>	ขั้น	
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
5.	การเดินขึ้นบันไดขึ้นตึก <u>1</u> ชั้น		
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
6	. การก้ม การคุกเข่า หรือการ	งอตัว	
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
7.	การเดินเป็นระยะทาง <u>มากกว่</u>	<u>า 1 กิโลเมตร</u>	
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
8. í	าารเดินเป็นระยะทาง <u>หลายร้อ</u>	ยเมตร	
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
9.	การเดินเป็นระยะทาง <u>100 เม</u>	<u> </u>	
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย
1(). การอาบน้ำหรือแต่งตัวเอง		
	🗆 1. ใช่ ถูกจำกัดมาก	🗆 2. ใช่ ถูกจำกัดน้อย	🗆 3. ไม่ใช่ ไม่ถูกจำกัดเลย

แบบสอบถามการได้รับการสนับสนุนทางสังคมของผู้ดูแลผู้ป่วย คำชี้แจง เราต้องการทราบว่าท่านรู้สึกอย่างไรกับข้อความต่อไปนี้ โปรดอ่านข้อความแต่ละข้ออย่างตั้งใร และทำเครื่องหมาย วงกลม ทับหมายเลขคะแนนที่ตรงกับความรู้สึกของท่าน โดยที่

1	หมายถึง ไม่เห็นด้วยอย่างยิ่ง							
2	หมายถึง ไม่เห็นด้วย							
3	หมายถึง ไม่เห็นด้วยเล็กน้อย							
4	หมายถึง เห็นด้วยปานกลาง							
5	หมายถึง เห็นด้วย							
6	หมายถึงเห็นด้วยอย่างมาก							
7	หมายถึง เห็นด้วยอย่างยิ่ง							
1. มีบุคคลพิเศษ อยู่ข้างๆ คุณ ในเวลาคุณต้องการความช่วยเหลือ			2	3	4	5	6	7
2. ท่านมีบุคคลพิเศษที่สามารถแบ่งบันทั้งความทุกข์และสุข		1	2	3	4	5	6	7
3. ครอบครัวของท่านมีความพยายามเป็นอย่างยิ่งที่จะให้ความช่วยเหลือท่าน		1	2	3	4	5	6	7
4. ท่านได้รับการช่วยเหลือและสนับสนุนอย่างเข้าใจจากครอบครัวของท่าน		1	2	3	4	5	6	7
5. ท่านมีบุคคลพิเศษที่ช่วยทำให้ท่านสบายใจได้		1	2	3	4	5	6	7
6. เพื่อนของท่านพยายามช่วยเหล	ลือท่านอย่างมาก	1	2	3	4	5	6	7
7. ท่านมีเพื่อนที่ช่วยเหลือท่านได้ เมื่อมีสิ่งผิดปกติเกิดขึ้น		1	2	3	4	5	6	7
8. ท่านสามารถเล่าปัญหาต่างๆ ให้ครอบครัวของท่านฟัง		1	2	3	4	5	6	7
9. ท่านมีเพื่อนที่สามารถแบ่งปันทั้งความทุกข์และสุข		1	2	3	4	5	6	7
10. ท่านมีบุคคลพิเศษในชีวิตที่คอยใส่ใจความรู้สึกของท่าน		1	2	3	4	5	6	7
11. ครอบครัวของท่านให้ความช่า	วยเหลือท่านในการตัดสินใจ	1	2	3	4	5	6	7
12. ท่านสามารถพูดคุยปัญหาต่างๆ กับเพื่อนของท่าน		1	2	3	4	5	6	7

แบบวัดภาระงานการดูแลผู้ป่วย

ข้อคำถามเหล่านี้ถามเกี่ยวกับภาระงานและกิจกรรมการดูแลที่ท่านได้ให้การช่วยเหลือแก่ผู้ป่วยโรคหัวใจวาย <u>โปรด</u> ระบุจำนวนเวลาที่ใช้และความยากง่ายในการให้การดูแลผู้ป่วยในแต่ละกิจกรรม โดยทำเครื่องหมาย X ตรงกับช่อง <u>ที่ตรงกับความรู้สึกท่านมากที่สุด</u>

เวลา		ความยาก
5= ใช้เวลามากที่สุ	୭	5= ยากมากที่สุด
4= ใช้เวลามาก		4= ยากมาก
3= ใช้เวลาปานกล	าง	3= ยากปานกลาง
2= ใช้เวลาเล็กน้อย	9	2= ยากเล็กน้อย
1= ไม่ได้ใช้เวลาเล	ရ	1= ไม่ยากเลย
1) ให้การดูแลเกี่ยวกับการรักษาและพ	ยาบาล (ให้ยาม ดูแลผิวหนัง,	ทำแผล เป็นต้น):
🗆 ใช้เวลามากที่สุเ	ด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก		🗆 ยากมาก
🗆 ใช้เวลาปานกลา	14	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย		🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	J	🗆 ไม่ยากเลย

ให้การดูแลกิจวัตรประจำวันแก่ผู้ป่วย (เข้าห้องน้ำ, อาบน้ำ, กินข้าว เป็นต้น):

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
□ ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

3) ให้การช่วยเหลือเกี่ยวกับการเคลื่อนไหว (เดิน, ลุกจากเตียง เป็นต้น):

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

4) ให้การดูแลเมื่อมีปัญหาด้านอารมณ์แก่ผู้ปวย เช่น เศร้า, เครียด, วิตกกังวล เป็นต้น:

	🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
	🗆 ใช้เวลามาก	🗆 ยากมาก
	🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
	🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
	🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย
5)	สังเกตอาการนิดปกติของผู้ป่วย:	
	🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
	🗆 ใช้เวลามาก	🗆 ยากมาก
	🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
	🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
	🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

6) ให้การดูแลช่วยเหลือเกี่ยวกับการเดินทางไปสถานที่ต่างๆ (ขับรถ, เข้าร่วมกิจกรรมต่าง ๆ เช่น ไปพบแพทย์ตามนัด):

	🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
	🗆 ใช้เวลามาก	🗆 ยากมาก
	🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
	🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
	🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย
7)	ให้การดูแลเรื่องค่าใช้จ่ายต่าง ๆ ในครอบครัว:	
	🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
	🗆 ใช้เวลามาก	🗆 ยากมาก
	🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
	🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
	🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

8) ช่วยเหลือเกี่ยวกับงานบ้าน (ซักรีด, ทำอาหาร, ทำความสะอาดมาก, ตัดหญ้าในสนาม, ช่อมบ้าน เป็นต้น):

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

9) ให้การช่วยเหลืองานนอกบ้านแก่ผู้ป่วย (ซื้อของ, จ่ายตลาด, ไปธนาคาร เป็นต้น)

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
□ ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

10) ให้การดูแลเกี่ยวกับกิจกรรมผ่อนคลาย (กิจกรรมพักผ่อนหย่อนใจ, พักผ่อน และอื่น ๆ)

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

11) ให้การดูแลเมื่อผู้ป่วยมีพฤติกรรมที่มีปัญหา (อารมณ์เสีย, หงุดหงิด, สับสน, หลงลืม เป็นต้น):

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

12) หาคนดูแลผู้ป่วยชั่วคราวเมื่อท่านไม่อยู่:

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

 ช่วยเหลือผู้ป่วยในการติดต่อสื่อสารกับผู้อื่น (โทรศัพท์, อ่านหรือเขียน, อธบายสิ่งต่างๆ, ทำความเข้าใจเกี่ยวกับสิ่งที่ผู้ป่วย พยายามพูดหรือบอกแก่ท่าน)

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
่ □ ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

14) ติดต่อประสานงาน, ตระเตรียม และ จัดการ เกี่ยวกับบริการ และทรัพยากร ต่าง ๆ สำหรับผู้ป่วย (นัดตรวจ, ตระเตรียม การเดินทาง, หาแหล่งช่วยเหลือภายนอก):

ป ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

 จัดหาแหล่งข้อมูลสำหรับผู้ป่วย และคุยกับแพทย์และพยาบาล และผู้ให้บริการทางการแพทย์อื่นๆเกี่ยวกับการรักษาและ ดูแลผู้ป่วย:

🗆 ใช้เวลามากที่สุด	🗆 ยากมากที่สุด
🗆 ใช้เวลามาก	🗆 ยากมาก
🗆 ใช้เวลาปานกลาง	🗆 ยากปานกลาง
🗆 ใช้เวลาเล็กน้อย	🗆 ยากเล็กน้อย
🗆 ไม่ได้ใช้เวลาเลย	🗆 ไม่ยากเลย

ความขัดแย้งในบทบาท

จากการให้การดูแลผู้ป่วยโรคหัวใจวายของท่านกรุณาอ่านข้อความต่อไปนี้แล้วพิจารณาว่าการดูแลผู้ป่วยมี ผลกระทบต่อการกระทำบทบาทต่างๆเหล่านี้มากน้อยเพียงใด **โดยทำเครื่องหมาย X ลงในช่องที่ตรงกับระดับความรู้สึก** ของท่านมากที่สุด <u>โปรดระบุว่าการดูแลผู้ป่วยในครอบครัวมีผลกระทบ หรือ เป็นอุปสรรคต่อหน้าที่ต่อไปนี้อย่างไร</u> <u>บ้าง</u>

1. การทำหน้าที่ภรรยา/สาม				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	⊟มาก	⊏มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
2. การทำหน้าที่พ่อหรือแม่				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	ี่⊔มาก	⊓มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
3. การทำหน้าที่ลูกสาว/ลูกชาย				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	ี่⊔มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
4. การทำหน้าที่พี่หรือน้อง				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	่⊔มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
5. การทำหน้าที่ปู่ย่า/ตายาย				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	่⊓มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
6. การทำหน้าที่ญาติที่นอกเหนือจากข้อ 1-5				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	⊟มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
7. การทำหน้าที่เป็นเพื่อน				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	⊟มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
8. การทำหน้าที่ทำงานนอกบ้าน				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	⊟มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
9. การทำงานบ้าน และดูแลความเรียบร้อยในบ้าน				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	่⊓มาก	□มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
10. การทำหน้าที่เป็นนักศึกษา				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	ี่⊔มาก	⊓มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
11. การเข้าร่วมกิจกรรมทางศาสนาอย่างสม่ำเสมอ เช่น ไปวัดในวันสำคัญต่างๆ ทางศาสนา, การไปร่วมทำบุญในโอกาสต่าง				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	ี่⊔มาก	⊓มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
12. การเข้าร่วมงานสังคมอย่างสม่ำเสมอ เช่น งานแต่งงาน, งานศพ, งานบุญร้อยวัน, งานบวช ฯลฯ				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	⊟มาก	⊓มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้
13. การทำสิ่งดีๆให้กับตัวเอง				
🗆 ไม่เลย 🗆 เล็กน้อย	⊡ปานกลาง	ี่⊔มาก	⊏มากที่สุด	🗆 ไม่ได้ทำบทบาทนี้

ๆ

14. ความรับผิดชอบอื่นๆที่ท่านมีอยู่ได้รับผลกระทบจากการดูแลผู้ป่วยในครอบครัว ระดับใด

ุ่⊡ ไม่เลย ⊡ เล็กน้อย ⊡ปานกลาง ⊡มาก ⊡มากที่สุด ⊡ ไม่ได้ทำบทบาทนี้

ความเครียดในบทบาทโดยรวม

<u>คำชี้แจง</u> เราต้องการทราบคุณรู้สึกอย่างไรต่อข้อความต่อไปนี้ <mark>กรุณาอ่านแต่ละข้อความและพิจารณาคุณรู้สึกอย่างไร</mark> โดยทำเครื่องหมาย X ลงบน □ ที่ตรงกับความรู้สึกของท่านมากที่สุด

1. ท่านรู้สึกว่าการดูแลผู้ป่วยทำให้ท่านขาดอิสระมากน้อยเพียงใด

🗌 ไม่รู้สึกเลยว่าขาดอิสระ

🗌 รู้สึกบ้างเล็กน้อย

🗌 รู้สึกขาดอิสระปานกลาง

🗌 รู้สึกขาดอิสระค่อนข้างมาก

🗌 รู้สึกขาดอิสระมากที่สุด

2.บ่อยครั้งเพียงใดที่ท่านรู้สึกว่าการดูแลผู้ป่วยเป็นงานที่ยากลำบาก

🗌 ไม่เคยเลย

🗌 นาน ๆ ครั้ง

🗌 บางครั้ง

🗌 บ่อยครั้งมาก

🗌 เป็นประจำ

3.ท่านรู้สึกเครียด ต่อการรับผิดชอบในภาระหน้าที่ต่าง ๆ รวมทั้งการดูแลผู้ป่วยมากน้อยเพียงใด

🗌 ไม่เครียดเลย

🗌 เครียดเล็กน้อย

🗌 เครียดปานกลาง

🗌 เครียดมาก

🗌 เครียดมากที่สุด

4.บ่อยครั้งแค่ไหนที่ท่านรู้สึกว่าท่านอดทนในการดูแลผู้ป่วยในครอบครัว

🗌 ไม่เคยเลย

🗌 น้อยครั้งมาก

🗌 บางครั้ง

🗌 บ่อยครั้งมาก

🗌 เป็นประจำ

5.ในการดูแลผู้ป่วย ท่านรู้สึกว่าท่านได้รับผลดีและผลเสียอย่างไร

- 🗌 มีผลดีมากกว่าผลเสียอย่างมาก
- 🗌 ค่อนข้างไปทางด้านผลดีมากกว่าผลเสีย
- 🗌 มีผลดีและผลเสียเท่ากัน
- 🗌 ค่อนไปทางมีผลเสียมากกว่าผลดี
- 🗌 มีผลเสียมากกว่าผลดีมาก

6.เมื่อเวลาผ่านไปเรื่อยๆ ท่านรู้สึกอย่างไรกับการดูแลผู้ป่วย

- 🗌 ง่ายมากขึ้น
- 🗌 ค่อนข้างง่ายขึ้น
- 🗌 เหมือนเดิม
- 🗌 ค่อนข้างยากขึ้น
- 🗌 ยากมากขึ้น

7.หากผู้ป่วยในครอบครัวต้องได้รับการดูแลเพิ่มมากขึ้นท่านมีความมั่นใจเพียงใดที่จะดูแลผู้ป่วยให้มากกว่าที่ท่านทำอยู่ใน ขณะนี้

- 🗌 ไม่มั่นใจเลย
- 🗌 มั่นใจเล็กน้อย
- 🗌 มั้นใจปานกลาง
- 🗌 มั่นใจมาก
- 🗌 มั่นใจมากที่สุด
APPENDIX B

The Recruitment Procedure

THE RECRUITMENT PROCEDURE

Study Title: Perceived Role Strain in Thai Family Caregivers of Heart Failure Patients

Researchers and Title: Ms. Arunee Chaiyarit, PhD (c), RN, MSN, Principal Investigator

Dr. Barbara Given, PhD, RN, FAAN, Major Professor

This study sheet will show the procedure for clinic nurses to recruit study subjects. The contents of the procedure are comprised of the criteria to recruit study subjects. The researcher will explain the criteria of recruitment to clinic nurses. Clinic nurses should feel free to ask the researcher any questions they may have. Clinic nurses should follow the recruitment steps in accordance with the inclusion criteria as follows:

Inclusion Criteria

- 1) Providing medical, emotional and physical care for HF patients with a severe functional class II to IV as a family member.
- 2) Serving as a primary caregiver providing care for HF patients at home for at least 3 months.
- 3) Being 18 years old or older.
- 4) Demonstrating the ability to understand and speak the Thai language.
- 5) Being family caregivers of heart failure patients in rural areas of eastern Thailand.

Family caregivers of HF patients will be approached by clinic nurses to ask about their intension to participate in the study based on each criterion.

1) Providing medical, emotional and physical care for HF patients with a severe functional class II to IV as a family member.

WHAT CLINIC NURSES WILL DO:

Clinic nurses will ask HF patients to identify their family caregivers who provide medical, emotional or physical care for the patient at least one hour each day. Family caregivers who provide at least one type of care for the patients more than one hour a day meet the criteria of this study. Caregiving tasks of heart failure patients include medical, emotional and physical care.

-**Medical care** includes the assistance of heart failure patients with drug administration, sodium control and symptom monitoring. Symptoms include breathlessness, fatigue, feet or ankle edema, gained weight, and decreased or increased urine output.

-**Emotional care** refers to the assistance when heart failure patients have emotional problems such as sadness, stress, anxiety and worry. Assistances include listening, speaking, empathizing and helping patients in dealing with these negative emotions.

-**Physical care** involves the assistance with activity daily living (eating, bathing, dressing, using the toilet, and helping with mobility) or Instrumental activity daily living (transportation, laundry, housework, preparing meal, shopping and housework).

Family caregivers of HF patients with functional class II to IV will be recruited into the study. Clinic nurses can evaluate HF patients' functional class by using the following criteria. Heart failure functional class II to IV can be identified with respect to medical records or symptoms that are:

Class	Symptoms
Class I	No limitation of physical activity. Ordinary physical
	activity does not cause undue fatigue, palpitation, or
	dyspnea (shortness of breath).
Class II	Slight limitation of physical activity. Comfortable at
	rest, but ordinary physical activity results in fatigue,
	palpitation, or dyspnea.
Class III	Marked limitation of physical activity. Comfortable at
	rest, but less than ordinary activity causes fatigue,
	palpitation, or dyspnea.
Class IV	Unable to carry out any physical activity without
	discomfort. Symptoms of cardiac insufficiency at rest.
	If any physical activity is undertaken, discomfort is
	increased.

Sources: New York Heart Association (2011). Retrieved from http://www.abouthf.org/questions_stages.htm

2) Serving as a primary caregiver providing care for HF patients at home for at least 3 months.

WHAT CLINIC NURSES WILL DO:

Clinic nurses will ask family caregivers about the relationship to the patient. If a family caregiver is a family member of a heart failure patient, this caregiver meets the criteria for the study. Additionally, clinic nurses will ask family caregivers how long they have cared for HF patients. If these caregivers have cared for the patients for more than three months, these caregivers meet the criteria of this study.

3) Being 18 years old or older

WHAT CLINIC NURSES WILL DO:

Family caregivers will be asked about their age by clinic nurses. If caregivers are 18 years old or older, these caregivers meet the criteria of the study.

4) Demonstrating the ability to understand and speak the Thai language.

WHAT CLINIC NURSES WILL DO:

Clinic nurses will ask family caregivers if they can understand Thai. If these caregivers can understand Thai, they meet the criteria of this study.

5) Being family caregivers of heart failure patients in a rural area of eastern Thailand.

WHAT CLINIC NURSES WILL DO:

Clinic nurses will check the address of HF patients in their medical records. Heart failure patients and family caregivers must live in one of five provinces of eastern Thailand including Chonburi, Rayong, Chachoengsao, Prachinburi and Srakeaw. Each province has a central district, which is called "Amphore Moeng." The Amphore Moeng district is identified as an urban area in each province. If these patients and caregivers live in any district except for the Amphor Moeng district, these HF patients and their caregivers meet the inclusion criteria.

FCGs who do not meet all inclusion criteria of this study will be excluded from the study.

เกณฑ์การคัดเลือกอาสาสมัครเข้าร่วมงานวิจัย

ชื่อเรื่องงานวิจัย: **"การศึกษาระดับความเครียดในบทบาทจากการรับรู้**

ของผู้ดูแลผู้ป่วยโรคหัวใจวายในประเทศไทย"

ผู้วิจัย: นางสาว อรุณี ไชยฤทธิ์, พยาบาลวิชาชีพ, พยม., นักศึกษาปริญญาเอก อาจารย์ที่ปรึกษา: ดร. บาบาร่า กิฟเว่น ศาสตราจารย์กิตติคุณ มิชิแกน สเตต ยูนิเวอร์ซิตี้

เอกสารฉบับนี้ใช้เป็นคู่มือสำหรับพยาบาลผู้ทำหน้าที่คัดกรองผู้ดูแลผู้ป่วยโรคหัวใจวายเข้าร่วมงานวิจัย เนื้อหาของ เอกสารฉบับบนี้ประกอบด้วย เกณฑ์การคัดกรองผู้เข้าร่วมงานวิจัย ซึ่งผู้วิจัยได้อธิบายหลักเกณฑ์และวิธีการคัดเลือก อาสาสมัครเข้าสู่งานวิจัย ถ้าพยาบาลผู้คัดกรองผู้เข้าร่วมงานวิจัยมีคำถามสามารถถามคำถามต่อผู้วิจัยได้จนมีความเข้าใจเป็น อย่างดี พยาบาลผู้คัดกรองต้องปฏิบัติตามหลักเกณฑ์การคัดกรองผู้เข้าร่วมงานวิจัยอย่างเคร่งครัด

หลักเกณฑ์การคัดเลือกผู้เข้าร่วมงานวิจัย

- ต้องเป็นผู้ให้การดูแลด้านร่างกาย การรักษา และอารมณ์ แก่ผู้ป่วยโรคหัวใจวายระยะที่ สอง สามและสี่ ในฐานะ สมาชิกครอบครัว
- 2. ให้การดูแลผู้ป่วยโรคหัวใจวายติดต่อกันอย่างน้อย 3 เดือนขึ้นไป
- 3. อายุ 18 ปี หรือมากกว่า
- 4. เข้าใจและพูดภาษาไทยได้
- 5. อาศัยอยู่ในเขตชนบทในภาคตะวันออกของประเทศไทย
- พยาบาลประจำคลีนิคคัดกรองผู้เข้าร่วมงานวิจัยตามหลักเกณท์การคัดกรองผู้เข้าร่วมงานวิจัยในเอกสารฉบับนี้
- ต้องเป็นผู้ให้การดูแลด้านร่างกาย การรักษา และอารมณ์ แก่ผู้ป่วยโรคหัวใจวายระยะที่ สอง สามและสี่ ในฐานะ สมาชิกครอบครัว

สิ่งที่พยาบาลผู้คัดกรองผู้เข้าร่วมการวิจัยต้องปฏิบัติ

พยาบาลผู้คัดกรองผู้เข้าร่วมงานวิจัยตรวจสอบประวัติผู้ป่วยที่มีวินิจฉัยหัวใจวายระยะที่ สองถึงสี่ และพยาบาลผู้คัด กรองจะถามผู้ป่วยว่ามีญาติผู้ดูแลหรือไม่ ถ้าผู้ป่วยแจ้งว่ามี พยาบาลผู้คัดกรองจะสอบถามผู้ป่วยว่าผู้ดูแลให้การดูแลด้าน ร่างกาย การรักษาและ อารมณ์แก่ผู้ป่วยอย่างน้อยวันละหนึ่งชั่วโมงหรือไม่ เป็นเวลาติดต่อกันอย่างน้อย 3 เดือนหรือไม่ ถ้าใช่ จะเข้าหลักเกณฑ์การเข้าร่วมงานวิจัยนี้

รายละเอียดการดูแล

การดูแลด้านการรักษาพยาบาล ประกอบด้วย การดูแลให้การช่วยเหลือผู้ป่วยในการจัดยา ดูแลให้รับประทานยา ควบคุมปริมาณเกลือในอาหาร การสังเกตอาการผิดปกติ เช่น เหนื่อยหอบ อ่อนเพลีย บวม น้ำหนักเพิ่ม หรือปัสสาวะออกมาก เกินไป เป็นต้น

การดูแลด้านอารมณ์ ประกอบด้วย การให้การดูแลปลอบโยน พูดคุย และให้กำลังใจผู้ป่วยเวลาที่มีปัญหาเครียด วิตกกังวลจากอาการที่เป็นอยู่

การดูแลด้านร่างกาย ประกอบด้วย การให้การดูแลช่วยเหลือผู้ป่วยโรคหัวใจวายในการปฏิบัติกิจวัตรประจำวัน เช่น อาบน้ำ กินข้าว ไปซื้อของ ทำงานบ้านเป็นต้น ผู้ป่วยโรคหัวใจวายจะต้องได้รับการประเมินจากพยาบาลผู้คักกรองว่าเป็นผู้ป่วยหัวใจวายในขึ้นที่สอง สาม หรือ สี่ โดยใช้แบบประเมิน ของ New York Heart Association ตามเกณท์การประเมินในตารางด่านล่าง

ระดับ	อาการ
ขั้น I	ไม่มีข้อจำกัดของกิจกรรมด้านร่างกาย การปฏิบัติกิจวัตรประจำวันไม่เป็นสาเหตุ
	ของการอ่อนเพลีย เหนื่อย หรือ หอบชองผู้ป่วย
ขั้น 11	มีข้อจำกัดด้านกิจกรรมร่างกายเล็กน้อย รู้สึกปกติสบายเมื่อพัก แต่มีอาการ
	อ่อนเพลีย ใจสั่น เหนื่อย เมื่อปฏิบัติกิจวัตรประจำวัน
ขั้น III	มีข้อจำกัดมากในการมีกิจกรรมด้านร่างกาย รู้สึกสบายเมื่อพัก แต่จะอ่อนเพลีย
	และเหนื่อยมากเมื่อปฏิบัติกิจวัตรประจำวันหรือกิจกรรมน้อยกว่ากิจวัตร
ขั้น IV	ไม่สามารถปฏิบัติกิจกรรมด้านร่างกายโดยไม่มีอาการเหนื่อยได้ ไม่มีกิจวัตร
	ประจำวันใดที่ที่ทำแล้วไม่มีอาการของความไม่สุขสบาย มีอาการของหัวใจสูบ
	ฉีดเลือดไม่พอแม้ขณะพัก

Sources: New York Heart Association (2011). Retrieved from http://www.abouthf.org/questions_stages.htm

2. ให้การดูแลผู้ป่วยโรคหัวใจวายติดต่อกันอย่างน้อย 3 เดือน

สิ่งที่พยาบาลผู้คัดกรองผู้เข้าร่วมการวิจัยต้องปฏิบัติ

พยาบาลผู้คัดกรองจะถามผู้ดูแลผู้ป่วยเกี่ยวกับความเกี่ยวข้องกับผู้ป่วย ถ้าผู้ดูแลผู้ป่วยเป็นสมาชิกครอบครัวผู้ป่วย ถือว่าเข้าหลักเกณฑ์ของการวิจัย นอกจากนี้พยาบาลผู้คัดกรองจะถามระยะเวลาในการดูแลผู้ป่วยติดต่อกันอย่างน้อย 3 เดิอน จึงจะเข้าหลักเกณฑ์การเข้าร่วมการวิจัยนี้

3. อายุ 18 ปี หรือมากกว่า

สิ่งที่พยาบาลผู้คัดกรองผู้เข้าร่วมการวิจัยต้องปฏิบัติ

พยาบาลผู้คัดกรองถามอายุของผู้ดูแลผู้ป่วยถ้าอายุ 18 ปีขึ้นไป จะเข้าหลักเกณฑ์การวิจัยนี้

4. เข้าใจและพูดภาษาไทยได้

สิ่งที่พยาบาลผู้คัดกรองผู้เข้าร่วมการวิจัยต้องปฏิบัติ

พยาบาลผู้คัดกรองจะถามผู้ดูแลผู้ป่วยว่าเข้าใจภาษาไทยหรือไม่ ถ้าผู้ดูแลสามารถพูดและเข้าใจภาษาไทยจะเข้า หลักเกณฑ์การวิจัยนี้

5. อาศัยอยู่ในเขตชนบทในภาคตะวันออกของประเทศไทย

สิ่งที่พยาบาลผู้คัดกรองผู้เข้าร่วมการวิจัยต้องปฏิบัติ

พยาบาลผู้คัดกรองจะตรวจสอบที่อยู่ผู้ป่วยในประวัติผู้ป่วย และสอบถามยืนยันจากผู้ดูแลว่าอาศัยอยู่ในเขตชนบท ของฉะเชิงเทรา ระยอง ชลบุรี ปราจีนบุรี และ สระแก้ว เขตภาคตะวันออกของประเทศไทย แต่ละจังหวัดของประเทศไทยมี อำเภอศูนย์กลาง ที่เรียกว่า "อำเภอเมือง" ซึ่งถือว่าเป็นเขตเมืองของแต่ละจังหวัด ถ้าผู้ดูแลผู้ป่วยอาศัยอยู่ในเขตอำเภออื่นๆ นอกเหนือจากอำเภอเมือง จะเข้าหลักเกณฑ์ของงานวิจัยนี้

APPENDIX C

Study Consent Form

Explanation of the Study and Consent Form

You are being invited to participate in a research project that will look at the significant influences of role strain in caregivers of heart failure patients. Researchers are required to provide a consent form to inform you about the study, to convey that participation is voluntary, to explain risks and benefits of participation, and to empower you to make an informed decision. You should feel free to ask the researchers any questions you may have.

Study Title: "Perceived Role Strain in Thai Family Caregivers of Heart Failure Patients"

Researchers and Title:

Dr. Barbara Given, PhD, RN, FAAN (Principal Investigator)

Arunee Chaiyarit, RN, MSN, Doctoral Student College of Nursing, Michigan State University (Secondary Investigator)

Department and Institution: Michigan State University College of Nursing

Sponsor: N/A

1. PURPOSE OF RESEARCH:

You are being asked to participate in a research study to investigate how a sample of approximately 139 family caregivers of heart failure patients perceived levels of role strain. You have been identified as a caregiver who might be eligible to voluntarily join this study by the Bhuddasothorn hospital outpatient clinic nurses.

There is evidence that family caregivers of heart failure patients often experience perceived role strain due to managing heart failure patients' needs, but healthcare professionals require more evidence regarding significant influences of perceived caregiver role strain.

The study procedures have been approved by the Michigan State University Committee on Research Involving Human Subjects also Bhuddasothorn hospital. Potential study participants were identified by Bhuddasothorn outpatient clinic nurses in accordance with privacy regulations.

2. ALTERNATIVE OPTIONS:

Your decision on whether or not to join this study is entirely your own decision. Whether or not you participate <u>will not</u> change the medical or health care that your heart failure relatives receive from health care providers at Bhuddasothorn hospital. None of the healthcare professionals at the Bhuddasothorn hospital will be capable of knowing whether you decided to participate in this study or not.

3. WHAT YOU WILL DO:

You will be asked to complete a questionnaire that include 79 items concerning your own and your heart failure relatives socio-demographic and your feeling related to your caregiving role obligations. The total time required to participate in this study will be approximately 25-30 minutes.

4. POTENTIAL BENEFITS:

If you decide to participate, you will not directly benefit from your participation in this study. However, your participation in this study may help healthcare professionals understand the significant influence of perceived caregiver role strain that can help heart failure family caregivers to deal with the problem.

5. POTENTIAL RISKS:

There are no foreseeable risks associated with your participation in this study. Although it may be possible that:

You would feel mildly uncomfortable answering some of the survey questions, you will never be obligated to answer any questions that may make you feel uncomfortable.

6. PRIVACY AND CONFIDENTIALITY:

The information collected about you during the study will be kept confidential. Information from all participants in this research will be grouped together without names, and you <u>will not</u> be personally identified in any way in reports of the research. Information about you will be seen only by the research staff. Your confidentiality will be protected to the maximum extent. No healthcare professionals at Bhuddasothorn hospital will ever be capable of knowing what you did, or did not consent to participate in the study. The study data will be confidentially kept in a password protected computer and a locked cabinet at the fourth floor in West Fee Hall in Michigan State University (MSU) for three years after close of the study. Only the appointed researchers, their respected institutions and the institutional Review Board at MSU can access the study data. The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.

7. YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW:

Participation in this research project is completely voluntary. You have the right to say no. You may change your mind at any time and withdraw. You may choose not to answer specific questions or to stop participating at any time. Choosing not to participate or withdrawing from this study will not make any difference in the quality of any medical care or treatment you may receive from Bhuddasothorn hospital.

8. COSTS AND COMPENSATION FOR BEING IN THE STUDY:

There are no costs to participants in this study.

9. CONTACT INFORMATION FOR QUESTIONS AND CONCERNS:

If you have concerns or questions about this study such as scientific issues, how to do any part of it, or report an inquiry, please contact the researchers.

Investigator Contact Information

Name: Dr. Barbara Given, PhD, RN, FAAN (Principal Investigator)

Address: College of Nursing, Michigan State University

B510 W. Fee Hall, East Lansing, USA

Research Office Telephone: 1-517- 355-6526

Fax: 1-517-353-8612

Email: barb.given@hc.msu.edu; cindy.espinosa@hc.msu.edu.

Name: Ms. Arunee Chaiyarit, RN, MSN, Doctoral Student of College of Nursing, Michigan University (secondary investigator)

Address in Thailand:

45/2 Moo. 5 T. Kaokanoon

Phanomsarakham District

Chachoengsao Province, 24120

Cell-phone 081-340-3817

Address in the U.S.:

1615 Apt. C Spartan Village

East Lansing, USA, MI 48823

Telephone: 1-517-355-9782

Email: chaiyari@msu.edu

If you have any questions or concerns about your role and rights as a research participant, you may contact at 1-517-355-2180, Fax 1-517-432-4503, or e-mail irb@msu.edu or regular mail at:

207 Olds Hall, MSU

East Lansing, USA, MI 48824

10. DOCUMENTATION OF INFORMED CONSENT:

By signing the Statement of Consent below, you are indicating that you have read and received a copy of the **Explanation of the Study and Consent Form**. Your questions about participation in this study should have been answered in sufficient detail so that you understand. Your signature below means that you voluntarily agree to participate in this research study.

Signature

Date

Date

Person Obtaining Consent

You will be given a copy of this consent form to keep

เอกสารแนะนำอาสาสมัครและใบยินยอมเข้าร่วมงานวิจัยด้วยความสมัครใจ

ท่านกำลังได้รับเชิญให้เข้าร่วมโครงการวิจัย เพื่อศึกษาระดับของความขัดแย้งและความตึงเครียดในบทบาทในกลุ่มผู้ดูแล ผู้ป่วยโรคหัวใจวาย ผู้วิจัยจะแจกเอกสารแนะนำอาสาสมัครและใบยินยอมเข้าร่วมงานวิจัยด้วยความสมัครใจแก่อาสาสมัคร ผู้เข้าร่วมการวิจัยทุกท่าน เพื่ออธิบายเกี่ยวกับงานวิจัย, ชี้แจงให้ผู้เข้าร่วมทราบว่าการเข้าร่วมโครงการวิจัยนี้เป็นเรื่องของความ สมัครใจ, แจ้งความเสี่ยงและผลประโยชน์ที่ได้รับจากการเข้าร่วมการวิจัย และสนับสนุนท่านเพื่อการตัดสินใจอย่างอิสระในการ เข้าร่วมหรือปฏิเสธการเข้าร่วมการวิจัยในครั้งนี้ ท่านมีอิสระในการถามผู้วิจัยในทุกๆ คำถามที่ท่านส่งสัยเกี่ยวกับงานวิจัยนี้ ชื่อเรื่องงานวิจัย: "การศึกษาระดับความเครียดในบทบาทจากการรับรู้ของผู้ดูแลผู้ป่วยโรคหัวใจวาย ในประเทศไทย"

ผู้วิจัย: นางสาว อรุณี ไซยฤทธิ์, พยาบาลวิชาซีพ, พยม., นักศึกษาปริญญาเอก คณะพยาบาลศาสตร์มหาวิทยาลัย มิชิแกน สเตต ยูนิเวอร์ซิตี้ อาจารย์ที่ปรึกษา: ดร. บาบาร่า กิฟเว่น ศาสตราจารย์กิตติคุณ มิชิแกน สเตต ยูนิเวอร์ซิตี้ หน่วยงานและสถาบัน: คณะพยาบาลศาสตร์ มหาวิทยาลัยมิชิแกนสเตต ยูนิเวอร์ซิตี้ ที่อยู่ และ สถานที่ติดต่อ: 45/2 ม. 5 ต. เกาะขนุน อ. พนมสารคาม จ. ฉะเชิงเทรา 24120 หรือ 1615 หมู่บ้าน สปาร์ตัน อพาตเมนท์ ซี เมือง อีสต์ แลนซิ่งม รหัสไปรณีย์, MI 48823 ทุนสนับสนุนการวิจัย: ไม่มี

วัตถุประสงค์ของงานวิจัย:

ท่านกำลังได้รับการแนะนำให้เข้าร่วมงานวิจัย เพื่อวัดระดับความขัดแย้งและความตึงเครียดในบทบาทของผู้ดูแลผู้ป่วย โรคหัวใจวายจำนวน 139 คน ซึ่งท่านได้รับการระบุจากพยาบาลประจำคลีนิคว่าเป็นผู้ดูแลผู้ป่วยโรคหัวใจวายผู้ซึ่งอาจจะสมัคร ใจเข้าร่วมการวิจัยครั้งนี้ จากการศึกษาที่ผ่านมาพบว่า มีงานวิจัยสนับสนุนว่าผู้ดูแลของผู้ป่วยโรคหัวใจวายมักประสบภาวะ ความขัดแย้งและความตึงเครียดในบทบาทเนื่องจากภาระงานในการให้การดูแลผู้ป่วยโรคหัวใจวายที่หนักและใช้เวลามาก ซึ่ง ผู้ให้บริการสุขภาพและสาธารณสุขต้องการข้อมูลเกี่ยวกับปัจจัยสำคัญที่มีผลต่อการเกิดภาวะขัดแย้งและความตึงเครียดใน บทบาทของผู้ดูแลผู้ป่วยโรคหัวใจวาย เพื่อนำไปพัฒนาระบบบริการสุขภาพ ซึ่งผลการวิจัยนี้จะเป็นประโยชน์ในการพัฒนาการ ดูแลผู้ให้การดูแลผู้ป่วยโรคหัวใจวายให้มีภาวะสุขภาพที่ดี

กระบวนการทำวิจัยในครั้งนี้ได้รับการรับรองโดยคณะกรรมการด้านการปกป้องสิทธิของผู้เข้าร่วมการวิจัย ของมหาวิทยาลัย มิชิแกน สเตต ยูนิเวอร์ซิตี้ โดยยึดหลักการรักษาความลับของอาสาสมัครผู้เข้าร่วมการวิจัยอย่างเต็มที่

ทางเลือกของท่าน:

การตัดสินใจของท่านที่จะเข้าร่วมในการวิจัยครั้งนี้หรือ ปฏิเสธการเข้าร่วมงานวิจัยขึ้นอยู่กับการตัดสินใจของท่าน การตัดสินใจ ของท่านไม่มีผลต่อการเปลี่ยนแปลงการดูแลรักษาญาติของท่านที่โรงพยาบาลพุทธโสธร ไม่มีเจ้าหน้าที่คนใดในโรงพยาบาล พุทธโสธรทราบการตัดสินใจของท่านในการเข้าร่วมหรือปฏิเสธการเข้าร่วมการวิจัย

สิ่งท่านจะต้องทำ:

ท่านได้รับการขอร้องให้ทำแบบสอบถามจำนวน 79 ข้อ ซึ่งข้อคำถามเกี่ยวข้องกับข้อมูลส่วนตัวของท่านและผู้ป่วยและ ความรู้สึกของท่านจากการให้การดูแลผู้ป่วย เวลาที่ใช้การทำแบบสอบถามประมาณ 25-30 นาที

ผลประโยชน์ที่ได้รับจากการเข้าร่วมการวิจัย:

ท่านอาจจะไม่ได้รับผลประโยชน์โดยตรงจากการเข้าร่วมงานวิจัยครั้งนี้ แต่อย่างไรก็ตามการเข้าร่วมการวิจัยครั้งนี้จะทำให้ได้ ผลการวิจัยที่ช่วยให้ เจ้าหน้าที่ทางการพยาบาลและผู้ให้บริการสุขภาพเข้าใจถึงปัจจัยสำคัญที่มีผลต่อการเกิดความขัดแย้งและ ความตึงเครียดในบทบาทของผู้ดูแลผู้ป่วยโรคหัวใจ ที่สามารถนำมาพัฒนาการดูแลผู้ดูแลผู้ป่วยได้

5. ความเสี่ยง:

ไม่มีความเสี่ยงใดๆจากการที่ท่านเข้าร่วมงานวิจัยครั้งนี้ แต่อย่างไรก็ตามท่านอาจรู้สึกอึดอัดใจในการตอบคำถามบางข้อ ซึ่ง ท่านไม่จำเป็นต้องตอบคำถามในข้อที่ทำให้ท่านลำบากใจที่จะตอบ ท่านสามารถข้ามคำถามข้อนั้นไปได้

การเก็บความลับของผู้เข้าร่วมงานวิจัย:

ข้อมูลต่างๆของท่านที่เก็บได้ระหว่างการวิจัยจะถูกเก็บเป็นความลับ ข้อมูลของอาสาสมัครผู้เข้าร่วมวิจัยทั้งหมดจะถูกรวบรวม เข้าด้วยกันโดยไม่ระบุชื่อตลอดการวิจัย ข้อมูลของท่านจะถูกเก็บความลับอย่างสูงสุด ไม่มีเจ้าหน้าที่ในโรงพยาบาลพุทธโสธรรู้ ถึงการกระทำหรือการตัดสินใจเข้าร่วมหรือไม่เข้าร่วมการวิจัยของท่าน ข้อมูลวิจัยจะถูกบันทึกไว้ในโปรแกรมพิเศษของคณะ พยาบาลศาสตร์ มหาวิทยาลัยมิชิแกน สเตต ยูนิเวอร์ชิตี้ และเก็บไว้ในคอมพิวเตอร์ที่ป้องกันความปลอดภัยโดยใช้รหัสผ่าน และ เอกสารต่างๆ จะถูกเก็บไว้ในตู้เก็บเอกสารมีกุญแจล็อคเป็นเวลา 3 ปีหลังจบงานวิจัย มีเพียงผู้วิจัย, คณะกรรมการป้องกัน สิทธิผู้เข้าร่วมการวิจัยที่สามารถเข้าดูข้อมูลนี้ได้ ผลการวิจัยอาจมีการนำเสนอในที่ประชุมวิชาชีพหรือตีพิมพ์ แต่อย่างไรก็ตาม ข้อมูลของท่านจะถูกเก็บเป็นความลับตลอดการวิจัย

สิทธิในการตอบรับ, ปฏิเสธ หรือ ถอนตัวจากงานวิจัย:

การเข้าร่วมโครงการการวิจัยเป็นเรื่องของความสมัครใจอย่างแท้จริง ท่านมีสิทธิเต็มที่ในการปฏิเสธการเข้าร่วมงานวิจัย หรือ สามารถเปลี่ยนใจไม่เข้าร่วมหรือถอนตัวจากงานวิจัยได้ตลอดเวลา ท่านสามารถเลือกที่จะไม่ตอบคำถามบางข้อที่ท่านไม่อยาก ตอบ หรือยุติการเข้าร่วมการวิจัยได้ตลอดเวลา การเลือกที่จะไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากการวิจัยของท่านจะไม่มี ผลต่อคุณภาพการดูแลรักษาญาติของท่านจากทางโรงพยาบาลพุทธโสธรแต่อย่างใด

ค่าใช้จ่ายและค่าตอบแทนในการเข้าร่วมการวิจัย:

ไม่มีค่าใช้จ่ายใดๆทั้งสิ้น ในการเข้าร่วมงานวิจัยในครั้งนี้

ข้อมูลการติดต่อสำหรับผู้เข้าร่วมการวิจัยที่มีคำถามหรือข้อสงสัย:

ถ้าท่านมีข้อสงสัยคำถามเกี่ยวกับการวิจัย หรือ มีอันตรายหรือปัญหาที่เกิดจากการวิจัยโปรดติดต่อผู้วิจัย

ชื่อ: ดร. บาบาร่า กิฟเว่น ศาสตราจารย์กิตติคุณ

ที่อยู่: บี 510 ตึกเวสต์ฟีฮอล์, เมืองอีสแลนซิ่ง มิชิแกนสเตต ยูนิเวอร์ซิตี้, ประเทศอเมริกา โทรศัพท์ 1-517-355-6526, แฟกซ์: 353-8612, อีเมล์: barb.given@hc.msu.edu

ชื่อ: นางสาวอรุณี ไชยฤทธิ์ พยาบาลวิชาชีพ, พยาบาลศาสตร์มหาบัณฑิต, นักศึกษาปริญญาเอกคณะพยาบาสตร์ มหาวิทยาลัยมิชิแกน สเตต ยูนิเวอร์ซิตี้

ที่อยู่ในประเทศไทย: 45/2 ม. 5 ต. เกาะขนุน, อ. พนมสารคาม จ. ฉะเชิงเทรา, 24120

โทรศัพท์ 081-340-3817

ที่อยู่ในอเมริกา: 1615 อพาร์ตเมนท์ ซี หมู่บ้าน สปาร์ตัน, เมือง อีสต์แลนซิ่ง ประเทศสหรัฐอเมริกา, รหัสไปรษณีย์ MI 48823,

โทรศัพท์ 1- 517-355-9782;

อีเมล์: chaiyari@msu.edu

ถ้าท่านมีข้อสงสัยหรือ คำถามเกี่ยวกับบทบาทของท่านหรือ สิทธิของท่านในการเข้าร่วมการวิจัย หรือถ้าต้องการลงทะเบียน แสดงความคิดเห็นเกี่ยวกับงานวิจัยนี้ท่านสามารถติดต่อแบบไม่ประสงค์ออกนามได้ที่ 1-517-355-2180, แฟกซ์ 1- 517-432-4503, หรือ อีเมล์ irb@msu.edu หรือส่งจดหมายไปที่: 207 Olds Hall, MSU, East Lansing, USA, MI 4882

10. การยืนยันทางเอกสารของใบยินยอมเข้าร่วมงานวิจัย:

การลงนามในเอกสารข้างล่างแสดงถึงการสมัครใจและยืนยันเข้าร่วมงานวิจัยของท่าน หลังจากที่ท่านได้รับการแนะนำให้อ่าน ข้อความทั้งหมดในเอกสารแนะนำและคำถามของท่านเกี่ยวกับการวิจัยได้รับคำตอบจากผู้วิจัยจนกระทั่งท่านเข้าใจเป็นอย่างดี ท่านจะได้รับสำเนาใบยินยอมสมัครใจเข้าร่วมการวิจัยหลังจากท่านลงนามเข้าร่วมการวิจัย ลายเซ็นต์ด้านล่างของท่าน หมายความว่าท่านสมัครใจเข้าร่วมงานวิจัยครั้งนี้

ลายเซ็น	วันที่
พยาน	วันที่

ผู้สมัครใจเข้าร่วมงานวิจัยจะได้รับสำเนาเอกสารการยินยอมเข้าร่วมงานวิจัยสำหรับให้ท่านเก็บไว้

APPENDIX D

MSU IRB Approval Letter

Renewal Application Approval

April 5, 2012 To: Barbara A. Given B510 W. Fee Hall MSU

Re: IRB# 11-435 Category: EXPEDITED 2-7 Renewal Approval Date: April 5, 2012 Project Expiration Date: April 4, 2013

Title: Perceived Role Strain in Thai Family Caregivers of Heart Failure Patients

The Institutional Review Board has completed their review of your project. I am pleased to advise you that the renewal has been approved.

This letter notes approval for data analysis only (contact with subjects and data collection is complete). Any further recruitment, data collection or contact with subjects will require IRB review and approval via a revision before implementation.

The review by the committee has found that your renewal is consistent with the continued protection of the rights and welfare of human subjects, and meets the requirements of MSU's Federal Wide Assurance and the Federal Guidelines (45 CFR 46 and 21 CFR Part 50). The protection of human subjects in research is a partnership between the IRB and the investigators. We look forward to working with you as we both fulfill our responsibilities.

Renewals: IRB approval is valid until the expiration date listed above. If you are continuing your project, you must submit an Application for Renewal application at least one month before expiration. If the project is completed, please submit an Application for Permanent Closure.

Revisions: The IRB must review any changes in the project, prior to initiation of the change. Please submit an Application for Revision to have your changes reviewed. If changes are made at the time of renewal, please include an Application for Revision with the renewal application.

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to the human subjects, notify the IRB office promptly. Forms are available to report these issues.

Please use the IRB number listed above on any forms submitted which relate to this project, or on any correspondence with the IRB office.

Good luck in your research. If we can be of further assistance, please contact us at 517-355-2180 or via email at IRB@msu.edu. Thank you for your cooperation.

Sincerely,

Ashir Kumar, M.D. BIRB Chair

c: Arunee Chaiyarit

APPENDIX E

Buddhasothorn Hospital IRB Approval Letter

Buddhasothorn Hospital 174 Marupong Rd. Muang Chachoengsao 24000 Tel.66-38-814375-8

8 December 2011

Dear Ms. Chaiyarit:

Title: Perceived Role Strain in Thai Family Caregiver of Heart Failure Patients

Buddhasothorn Hospital Research Committee has completed review of your research project. I am pleased to inform you that your project has been approved. You can collect data at an outpatient clinic in Buddhasothorn Hospital.

The committees has found that your research project meet the criteria of human subject protection of Buddhasothorn Hospital.

Good luck for your research. Please contact Buddhasothorn Hospital if you would like assistances or you have any problem. Thank you very much.

Your Sincerely,

Dr.Chairoek Cimpawattanasiri Director of Buddhasothorn Hospital Thailand REFERENCES

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