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A longitudinal study exploring the impact of moderate or severe traumatic head injuries on family caregivers

Chayanit Luevanich
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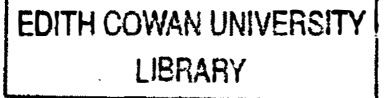
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**A Longitudinal Study Exploring the Impact of
Moderate or Severe Traumatic Head Injuries on
Family Caregivers**

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This Dissertation is submitted in Fulfillment of the Requirements for the
Award of

Doctor of Philosophy (Nursing)

Principal Supervisor: Dr. David Roberts

Co-Supervisor: Prof. Linda Kristjanson

June 2004

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

A Longitudinal Study Exploring the Impact of Moderate or Severe Traumatic Head Injuries on Family Caregivers

Background: This longitudinal study explored the impact on the family caregivers caring for a victim of a moderate or severe traumatic head injury (THI). The study used both quantitative and qualitative method and involved data calculation at three times points: one-month post injury, six months post injury, and one year later.

Study Population: The study population comprised 45 family caregivers aged 21 to 72 years old. Thirty-four of the same caregivers were followed at six months and twenty-five one year respectively.

Methods: Both quantitative and qualitative methods were used to assess the family caregivers. The quantitative dimension comprised the Psychological General Well-Being Schedule (PGWBS, Dupy, 1984), the General Functioning Scale of the Family Assessment Device (FAD-GFS, Epstein, Baldwin, & Bishop, 1983), and the Stanford Acute Stress Reaction Questionnaire (SASRQ, Cardena, et al., 2000), as well as a range of demographic variables. The PGWBS and the FAD-GFS were completed by family caregivers at three times during the study, and the SASRQ was completed by family caregivers at Time 1.

Results: Findings from quantitative method revealed that in the terms of the impact on family functioning, no significant differences were found between the initial stages of injury, six months, and one year post injury at the 0.05 level of significance. Especially in the initial stages of injury, family caregivers of both moderate and severe THI patients were likely to be at risk of developing an acute stress disorder after exposure to the traumatic event. However, the family caregiver's psychological general well-being showed significant difference among three times at the 0.01 level of significance.

The qualitative findings showed that most of family caregivers gave the meaning of THI as causing disability and severe injury. The major sources of distress were financial problems and victims' prognosis or reactions. These caused an impact on caregivers' financial situations, psychological and health problems, and loss of social interactions. Family caregivers used both problem-focused and emotion-focused coping strategies to deal the traumatic event. The coping strategies and resources that caregivers used to deal with the THI were consistent with the caregiver's way of life and culture. For example, they used religious coping mechanisms and belief in God or traditional medicine and local wisdom combined with the professional health care sector to help them cope.

Conclusion: The results of this study provide insights into the family caregivers experiences, understand how they cope with the crisis event and the impact of THI on their health. Health policy and local government should pay attention and promote the family caregivers' well-being and welfare to support the family caregivers during their take role as caregivers.

DECLARATION

“I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the next”.

Signature....

A solid black rectangular box used to redact the signature.

Date

15 June, 2004

ACKNOWLEDGEMENTS

My completion of this dissertation could not have been achieved if I did not have support and the help of many individuals.

First of all, I would like to express my grateful appreciation for the guidance, constant support, supervision-friendly of my principle supervisor, Dr. David Roberts and co-supervisor Prof. Linda Kristjanson, whose leadership and belief in nursing have enriched my own thinking and have contributed to my confidence to complete this dissertation. Their understanding of my difficulties encountered as a foreign student played a key role in the completion of this dissertation. My special thanks to Dr. Sue Nikoletti and Dr. Gavin Leslie who reviewed my research proposal and gave me useful commendations.

My heart-felt thanks go to Ajan Wipa Sae-sange for helping me to search articles. I would like to thank the experts: Associate Professor Dr. Yupapin Sirapo-ngam, Assistant Dr. Wandee Suttharangsee, Assistant Dr. Sangarun Isamarai, Dr. Jiraporn Katpichawatta, Mr. Noparat Nousatam, and Mr Tnanakorn Prasertsiri who approved my translation of instruments in this study both from English to Thai and back-translated Thai to English. And thanks to Dr. Catherine Classen from the Department of Psychiatry and Behavioral Science, Stanford University, School of Medicine who gave me the original version of the Stanford Acute Stress Reaction Questionnaire (SASRQ) and permitted me to translate into a Thai version and helped me to ensure the meaning in the back translation process.

My healthy thanks go to external examiners: Professor Lynn Scuby, Dr. Suporn Wongvatuny, and Dr. Lynn for their valuable and constructive suggestions for improving the thesis.

I would also like to thank my aunt Dr. Tasanee Aikvanich who supported my education fees. I wish to thank all THI family caregivers who willingly allowed me to enter their homes and to understand the impact of THI in Phuket and Phang-nga Province.

My thanks to my friends, Kick, San, and Pat who went with me in the process of collecting data.

Finally, I would like to thank my mother, as well as my sisters and brother. To all the named persons that I mention above, I am very grateful. Thanks for this study that made me learn more and value the knowledge in my motherland.

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CHAPTER I

Introduction

1.0 Introduction to the Study

This longitudinal study explores the impact on families of caring for victims of moderate or severe traumatic head injuries (henceforth, THI). The research population is located in the southern Thai provinces of Phuket and Phang-Nga where traumatic head injuries present a major public health problem. Although several studies have been conducted on the impact of THI on families, this study differs in a number of important respects. Firstly, the study uses both quantitative and qualitative approaches to provide an in-depth insight into the changing needs of families caring for head injured victims in the community. Secondly, the substantial majority of caregiver studies on THI victims have been cross sectional. This study takes a longitudinal approach from the time of the initial acute admission. Thirdly, there is mounting evidence that some family members may experience acute stress disorder (henceforth, ASD) from the psychological trauma during the initial period of hospitalisation. Few studies have explored the possible presence of ASD in such families. Finally, the vast majority of THI studies have been located in developed countries with much more sophisticated hospital and community health systems than Thailand. An in-depth understanding of caregiver needs from a Thai socio-cultural perspective could make an important contribution to the delivery of more sensitive and responsive community health care for such families.

1.1 Background

In many countries, traumatic head injuries (THI) are a major cause of death and disability. For example, in the United States, the annual incidence of THI is between 180 and 220 cases per 100,000 persons (Kraus et al., 1996 cited in Huber & Testani-Dufour, 2000). Each year, an estimated 80,000 to 90,000 persons suffer some degree of permanent disability (Thurman et al., 1999 cited in Hart et al., 2003). Similarly, in the

United Kingdom, half a million people are admitted to hospitals each year with traumatic head injuries (Jeevaratnon & Menon, 1996 cited in O'Neil & Carter, 1998). Australia has a similar pattern of THI to other developed countries. In Australia, THI is the major cause of death and chronic disability in people under 45 years of age (Mathers, Vos, & Stevenson, 1999).

In Thailand, the situation is significantly worse. Here, it is the third leading cause of death and disability in young adults and epidemiological data suggest this incidence is rising. Not only do such injuries present a major tragedy for the head injured victims and their families, they can also affect national development because many of these young people represent the nation's future workforce and consequent prosperity (Arunotayyanon, 1993).

For a range of reasons head injuries in the Southern Thai province of Phuket is a big problem and represents a significant proportion of all trauma victims. For example, a survey was conducted the Vachira Phuket Hospital, a leading trauma hospital in the Phuket region which is frequented by both Phuket people and patients from another provinces, (such as Phang-Nga province, Krabi province). The survey showed that each month the hospital admits an average of 95 moderate to severely THI victims. The vast majorities of these traumatic injuries are from motor vehicle accidents; particularly motorcycles. In Phuket, this situation is compounded because it is a common social practice of young people to drink alcohol while driving. Furthermore, the wearing of protective helmets is not widespread (Report, Vachira Phuket Hospital, 2003). An additional compounding factor relates to population for Phuket has many residents from other parts of Thailand seeking work in this popular tourist resort. Motorcycles are the most popular means of transport in the region because they are relatively inexpensive (Luevanich, 1997). Furthermore, the congested traffic conditions in Phuket also make motorcycles an attractive and more efficient mode of transportation. Although motorcycles are a major contributor to THI in Thailand, there are a number of other causes such as falls, sport injuries, and assaults (Report, Vachira Phuket Hospital, 2003).

1.2 The Victims of Traumatic Head Injury

Traumatic head injuries are also a growing concern because of the improved survival rates of THI victims. Nowadays, with more sophisticated medical services, an increasing number of people are surviving acute head injuries. The outcomes of this, however, is that an increasing number of head injury victims will develop chronic disabilities from their injuries (Ergh et al., 2000; Hart, et., 2003; Resnick, 1993; Rogerse & Kreutzer, 1984; Sherburne, 1986). These disabilities may include emotional, behavioral, cognitive, and physical changes (Hart et al., 2003; Hemingway & McAndrew, 1997; McNair, 1999; Resnick, 1993). These survivors with chronic disabilities need long-term care in the forms of post-trauma treatment and rehabilitation (Chesnut et al., 1998; Wasco, 1993). In the United States, THI is a major health problem leading an estimated 80,000 persons per year to suffer some degree of permanent disability (Hart et al., 2003). For a developing country like Thailand, such long-term care represents a major drain on hospital and community health services.

The results of THI may lead victims have long-term chronic disabilities, however predicting which head injuries will have the most unfavorable outcomes is an added difficulty facing neuro-physicians and nurses working with THI victims.

It can be seen from the discussion above that THI represents a significant clinical problem, particularly in a developing country like Thailand. The effects of THI also have a much wider impact on the community, in addition to the clinical impact on the individual sufferers. These subsequent impacts are briefly discussed below.

1.3 Impact of Traumatic Head Injuries on Families

As noted, THI not only affects the individual who sustained the injury, but it can have a devastating impact on their families and significant others (Harris et al., 2001; Harvey, Dixon & Padberg, 1995; Kosciulek, 1996; Kupfers et al., 1991; McNair, 1999; Wade et al., 2003). In fact, Swiercinsky et al. (1987 cited in Testani-Dufour et al., 1992) go so far

as to suggest that THI can best be viewed as a “silent epidemic” that impacts not only on the THI victim, but on the parents and other family members.

It was noted earlier that accurately predicting the long-term outcome of THI is a difficulty facing both neuro-physicians and nurses. This uncertainty surrounding the prediction of the patient’s prognosis is an added source of stress and uncertainty confronting families, particularly during the immediate post-trauma period (Chadwick, Kelly, & Sim, 2000; Mauss-Clum & Ryan, 1981; Kosciulek, 1996; Testani-Dufour et al., 1992). This situation is often exacerbated if families are also required to make decisions about the use of potentially life-sustaining treatments on their head injured family members. In essence, they are forced “... to make decisions quickly to and act as proxy-decision makers for the THI victims” (Jacob, 1997; Jacob, 1998; Mirr, 1991).

A number of authors (for example, Chadwick, Kelly, & Sim, 2000; Koller, 1991) have proposed that during the acute period, the hospital environment itself can be an important source of family stress. Most THI victims are usually admitted to hospitals for observation and treatment. Therefore, combining the anxiety surrounding the outcome of the sudden hospitalisation and the unfamiliar clinical environments and procedures, can add to their existing levels of stress and isolation. Some authors have suggested that family stress will increase if the victims have a prolonged hospitalisation period (Wade, Drotar, Taylor, & Stancin, 1995).

There are a number of other complex factors that researchers have recognised as contributing to the problems that families’ face during this acute period. For example, families are often shocked to find the person they knew as a healthy individual, appear unresponsive and corpse-like (Mauss-Clum & Ryan, 1981) following the head injury. Alternatively, some families may experience feelings of disbelief, guilt, helplessness and confusion during this acute phase (Noyes, 1999). These complex responses are a source of concern to health care workers because they may interfere with the families’ perceptions of reality, their abilities to function and their severely impact on families’ coping skills (Elliott & Smith, 1985). As Leske (1992a, p. 607) notes, “...stress

produced by a critical illness can vary in intensity and duration but certainly have the potential to create a heavy burden for families”. Furthermore, families confronting a critical illness can often feel that they have to deal with the problem alone, as Parker (1999, p.69) notes, “...critical illness was seen to be the business of the family; it involved only those who were intimately were connected with each other”.

In some cases the stressors on families during this acute period can be so severe that some individuals may go on to develop long-term psychiatric pathology. Recent evidence suggests that some families may actually experience acute stress disorder (ASD) from the emotional turmoil stemming from trying to deal with their relatives prognosis and conditions during this acute period, and attempting to maintain their normal functioning in everyday life (Pittman & Fowler, 1998).

The Diagnostic and Statistical Manual IV (DSM IV) sets the criteria for the diagnosis of ASD. The criteria for an ASD is that the individual must exhibit at least three of the following dissociative symptoms (Pittman & Fowler, 1998):

- a subjective sense of numbness;
- detachment or absence of emotional responsiveness;
- a reduction in awareness of their surroundings;
- derealisation;
- depersonalisation, and dissociative amnesia; or
- the inability to recall an important aspect of the trauma.

For the diagnosis to be valid, the symptoms need to emerge in an individual 2 to 28 days following the trauma. Exploring the possible presence of ASD in families of THI may be an important clinical assessment, because ASD in a family member may disturb that person’s cognition, perception and coping strategies, thus influencing family functioning and family adaptation. Thus, if health care providers can identify the presence of ASD, early, they can possibly prevent the development of chronic anxiety in some family members.

Earlier studies have pointed to the possible existence of ASD in families dealing with head injuries (Courtney, 1997; Hauber & Testani-Dufour, 2000). Kasowski (1993) found that families explained their experiences at this phase as cyclical, alternating between stages of coping and not coping depending on the victims' signs and symptoms. In some cases families deny the event, express anger, a sense of loss of control helplessness, numbness, reduction in awareness of their surroundings, derealisation, depersonalisation or amnesia. In another study most close family members were assessed as being clinically anxious, some of them were evaluated as being clinically depressed (Novack, Berquist, Bennett, & Gouvier, 1991). Wilkinson (1995, p. 79) explained that "...families members may be perceived as secondary clients of hospital services".

1.4 The Long-Term Impact on the Victims of Traumatic Head Injury

To this point the discussion has mainly focused on the acute impacts of THI. However, for some patients and their families, the long-term impacts of THI can be even more distressing. For example, THI victims often need long-term care over many years that can represent both an emotional and financial burden to the families. The number of severely head-injured victims that are able to return to work is low. Brooks et al (1987 cited in Hemingway & McAndrew, 1997) estimated that only 30 % of severe THI victims were able to return to full productive work after their injuries. The reasons why they are unable to return to productive work vary widely, however, the most common reason relates to the cognitive impairment and behavioral problems that arise from unresolved damage to the cerebral tissue. The study by Kersel et al. (2001) showed that THI victims displayed some degree of impairment on tests administered at one-year post injury.

The emotional impact on the family from dealing with relatives with behavioural problems and impaired cognitive functioning can also be severe, because the family is the main support system for THI victims (Semlyen, Summers & Barnes, 1998). A study by Colorado (1997) showed that family members risk developing psychiatric symptoms

from their ongoing anxiety and emotional stress. The family member adopting the role of family caregiver experiences the greatest level of burden (Waton, 1992). The study by Leaf (1993) reported that most family caregivers were most concerned about long-term arrangements for their disabled relative, in particular, who in the family was going to become the provider. The study of Brooks (1991) and Thomson et al. (1984 cited in Wade et al., 1996) reported that families of severe THI victims were at great risk of long-term disruption from their experiences. A similar finding was reported by Semlyen et al. (1998). They concluded that THI family caregivers have high levels of distress. This was especially true for the primary caregivers that were at high increase risk of developing physical and psychological health problems. Thus, Vitaliano, Zhang, and Scanlan (2003) described that the family caregivers are the group at most risk of health problems. They also had a higher risk of psychiatric problems (Max et al., 1998).

Sachs (1985) noted that during the long-term phase of THI, family caregivers need some help to pace themselves through the long, uncertain future and to adjust to the long-range changes in their life-styles. Similarly, Taylor et al. (1998) found that family dysfunction was significantly high in the severe THI family group during the initial year. For married couples, their lives after THI can severely affect their marital relationships (Acorn & Roberts, 1992; Frye, 1987; Hart et al., 2003; Zeigler, 1999), and hence cause a negative impact on the lives of their siblings (Gill & Wells, 2000; Perlesz, Kinsella & Crowe, 1999; Tozer, 1996).

The family unit is a crucial variable determining how a family reacts to the traumas outlined above. The family is a significant social unit that serves to protect individual family members when confronted with an acute illness (Friedman, 1992; Yoder & Jones, 1982). Therefore, caring for a close family member with THI can be an overwhelming experience for family caregivers. From a nursing practice perspective it is often hard to predict how the family will respond or deal with the sudden and unexpected event of a THI. This means that nurses and health care providers experience difficulty in meeting the needs or even approaching such families. While health care providers need to be honest about the victim's prognosis, the nurses may lack the

expertise and confidence to discuss such sensitive details with the family, because health care providers cannot know the significance of this event, or predict the level of threat that this event places on the family caregivers. Therefore, knowledge of the acute impacts of THI on family caregivers may help health care providers to set more specific and appropriate interventions for THI family caregivers.

1.5 The Significance of the Study

Most of the studies outlined above are cross-sectional, quantitative studies. Thus the opportunities to gain an in-depth understanding of THI family caregivers' stress and needs over the time are limited. There is very little longitudinal research focusing on the impact and needs of families during the initial year following their relatives' THI. As was shown above, the needs and stressors families experience during the first year of recovery are likely to change over time (Stebbins & Leung, 1998). Without longitudinal data it can be difficult for health care providers to meet the changing needs of family caregivers. Accordingly, this study adopts a longitudinal perspective by following family caregivers of THI victims over the first year of recovery, commencing from the initial hospitalisation. Moreover, a survey of family caregiving research in Thailand during 1988 to 1999 found that many studies were conducted in hospital outpatient clinics yet few were accomplished in the community or home based settings. Most studies dealt with the family caregivers of the elderly, children with chronic diseases or chronically ill adult with either physical or mental health problems (Sirapo-ngam, 2003).

Recent evidence suggests that some family members risk developing psychiatric problems from the stress and anxiety associated with their relatives' hospitalisation. In recent years mental health professionals have recognised that this response to stress may represent a distinct psychiatric pathology such as Acute Stress Disorder (ASD). These symptoms can often appear within one month after exposure to the traumatic event. Understanding this problem allows nurses to develop more effective and responsive support systems to decrease family caregiver distress and anxiety during the acute hospitalisation phase. It is important that health care providers are aware of this disorder

in families because if it is not correctly recognized and managed it may develop into a chronic state of anxiety (Pittman & Fowler, 1998). Semlyen et al. (1998) suggested that if health care providers would like to reduce the level of distress in THI family caregivers, it is important to try to understand what it is in particular about THI that causes such distress to their caregivers. Moreover, the findings lend support to the wider implementation of long-term family-based rehabilitation (Harris, et al., 2001).

In summary, the present study is a response of the paucity of longitudinal research on the family caregivers during the acute period and one-year following a severe THI to a family member. Without this knowledge, it is difficult for nurses and support agencies to provide sensitive and responsive interventions to meet the needs of such caregivers. Therefore, the present study aims to shift from the immediate and acute impact of THI by taking a more longitudinal perspective on family caregivers. The study is also significant in that the research is conducted within the Thai socio-cultural context. This is important because there are major social and economic differences between health care delivery in the West and those that exist in Thailand. The findings from this study can make important contributions to delivering more appropriate hospital and community support services to families caring for THI victim in Thailand. Currently, Thailand has no community service or support service for families caring for head injured victims. The findings from this research will contribute to innovations. Thailand, particularly in Phuket and neighboring provinces in the health care system. Moreover, the finding will be integrated into hospital primary care services, or will be used to develop an extensive database of services available for THI victims and their families. This will work towards an improved quality of life for people with THI and their families through advocacy, information, and community education which can support family caregivers in providing quality in long-term care to their loved ones.

1.6 Statement of the Problem

As outline above, a severe THI has the potential to impact on the entire family. It is a sudden, unexpected, and often life threatening event. Pittman and Fowler (1998, p.254)

point out that "...family members of head-injured patients may anticipate death, or some temporary loss of a patient's function, loss of the present relationship between themselves and the patient and loss of work". In addition, they may have to adopt a new role to compensate for the person's disability. During the acute stage, the caregivers adjustment or lack there of their relatives' illness, may lead some family members to develop an ASD. ASD is a preliminary reaction when a family member is exposed to a traumatic event (Pittman & Fowler, 1998). This view is supported by Courtney (1997) and Friss (1990) who indicated that family caregivers may experience of the severe role strain. Similarly, Burgess et al. (1999) and Leske (2000) suggest that a THI have a significant impact on family caregiver's psychological adjustment. Moreover, it also affects family caregiver adaptation, sense of well- being, and family functioning (Leske, 2000).

Because THI caregiver studies have been mainly cross-sectional the long-term impact on their well-being has been largely ignored (Han & Haley, 1999). Taylor and his colleagues (1998) found that after victims are discharged from hospital, the big problem confronting families at six and twelve months was family dysfunction. This view is supported by Watson's observation (1992, p.52) that "the sudden onset of disability presents a greater challenge to a family because of shock and unpreparedness".

In the past decade, family caregiver research has grown rapidly, particularly in the area of gerontology. However, there have only been a few longitudinal studies focusing on the impact of acute illnesses on family caregivers. Therefore, the knowledge in this area is still inadequate. Wade et al. (1998) suggested that future research must not only pay attention to the initial effects of acute trauma on family caregivers, but also investigate the long-term impact on families. Lees (1988 cited in Hubert, 1995) suggested that there should be an increased body of knowledge about outcomes of specific THI on families. Danielson et al. (1993) argued that researchers need to develop ways of preventing negative family outcomes and identifying methods of support for family caregivers. It is particularly important to explore the family and how they understand and handle this trauma (Depompei & Zarski, 1991). In addition, Kosciulek (1999) recommended, more

specifically, the study of the continuing and changing behavior in family coping across time, as well as advanced clinical observation and research regarding the process of family adaptation to THI.

The results from the study can facilitate health care workers to understand and meet the changing needs of such families. Furthermore, the study can provide specific information for health care providers to deliver more appropriate and effective interventions during the critical period after discharge from the hospital. The primary focus of the study is that the interventions will be culturally appropriate for Thailand.

1.7 Purpose of the Study

The purpose of this research is to gain a greater understanding of the impact of THI on family caregivers over the year following the head injury. The following research questions were addressed:

1. What is the meaning of “head injury” to caregivers supporting a head injured family member?
2. What is the level of family health and functioning at each point in time?
3. What are the sources of family caregiver distress?
4. What coping strategies do caregivers use to deal with their situations?
5. What resources are used by family caregivers when dealing with their injured relatives?
6. Are there any resources that the families feel could assist them with caregiver role?
7. Are THI family caregivers at risk of developing an acute stress disorder in the immediate aftermath of the THI event?

To address these research questions, the study will adopt both quantitative and qualitative methods. The family caregiver data will be collected at three time periods: during the first month, at six months, and one year following the THI.

1.8 Definition of Terms

For the purpose of this study, the following terms are defined:

Family caregiver: Family caregiver is defined as the primary person who has a significant legal or blood relationship with the victim (e.g. parents, spouse, sibling, daughter, and/ or son). The family caregiver is the person who provides primary care for the THI victim and is the most involved in assisting the victim with their various needs and daily living activities.

Traumatic head injury (THI): THI is defined as a head injury resulting from any external cause and resulting in a Glasgow Coma Scale (GCS) between 3 to 12. This study will confine itself to moderate and severe THI with a GCS 3 to 12. This scoring took place within 2 weeks of injury.

Vachira Phuket Hospital: The main acute trauma hospital in Phuket. This hospital is where the family caregivers were recruited during Time 1 of the three phases of the longitudinal study.

In summary, Chapter I has outlined the background, justification, and significance of the present study. It discussed the importance of such studies for informing nursing and other health care providers how to better meet THI family caregivers' needs. The Chapter concluded by setting out the research questions and definitions of terms.

Chapter II will now review and critique literature relevant to this study. It will examine the size of THI problems, the costs of the problem, the acute clinical impact on the THI victim, the chronic impact of THI on victim, immediate impact on families and the impact on families during the year following the THI.

CHAPTER II

Review of the Literature

2.0 Introduction

Over the past decade, there have been a number of studies in the caregiving area presented in the literature. The most heavily studied subject was in gerontology (Zarit, 1990), especially in Alzheimer's patients. Only a few were concerned with THI family caregivers especially in Thailand.

The purpose of this literature review is to help focus on this study, to explore and to explain the research and literature that provides the theoretical positions that guide the study. The review will be divided into six sections. Section one begins by reviewing the global size of the THI problem and the nature of the problem in Thailand. Section two reviews the costs of the problem. Section three reviews the acute clinical impact on the THI victims. Section four will review the chronic impact of the THI on the victim including emotional, cognitive, personality and behavioral deficits. Section five discusses the immediate impact on families. Section six discusses the impact on families during the year following the THI.

2.1 Size of the THI Problem

THI is the leading cause of all trauma-related morbidity, mortality and permanent disability in young people worldwide. Illnesses from THI have serious consequences, not only for the victims, but also for family members and significant others. Families' multifaceted stressors, threaten both family functioning and the quality of life of other family members.

2.1.1 Global Size of the Problem

The National Institute of Neurologic Disorders and Stroke estimates that each year there are 2 million head injuries in the United States, with approximately 500,000 patients suffering injuries, severe enough to require hospitalisation (Borczuk, 1997). Someone dies from a severe head injury every 12 minutes (Mitchell, 1994). Every five minutes, one of the THI victim will die and another will become permanently disabled (FCA, 1999a; National Instituted of Health, 1999). An estimated 5.3 million THI victims are living with their disability (NCIPP, 1999 cited in Wonggvatunyu, 2003). About 120,000 victims die before reaching the hospital. Similarly, in the United Kingdom half a million people are admitted to hospitals in each year with THI (Jeevaratnon & Menon, 1996 cited in O'Neil & Carter, 1998).

The highest incidence of THI is in people between 15 and 24 years of age. The incidence of THI in males is twice as high as for females. A second peak incidence occurs in the elderly for those age 75 and over. The dominant cause is motor vehicle accidents, which accounts for 51 %of all traumatic head injuries, with falls; assaults and violence; and sport and recreation, accounting for 21%, 12%, and 10% respectively. About 56 % of THI victims have high blood alcohol levels at the time of their accidents (FCA, 1999a; Hickey, 1997; National Instituted of Health, 1999)

In summation, THI is one of the most devastating health problems in many countries. Its effect is immeasurable for the survivors, their families and for national development. It is important to note that the long-term effects of THI are an enormous emotional and financial burden on the family members and represent a strain on medical and other service systems such as rehabilitation (FCA, 1999a).

2.1.2 The Size and Nature of the Problem in Thailand

In Thailand, THI is the third leading cause of death and disability in young adults. It is also a significant cause of death in 80 to 90 % of all traumas. About 20 to 30 percent of traumatically hospitalised patients are THI survivors (Khon Kaen Regional Hospital, 1998).

In the Southern Thai Province of Phuket, THI is a particularly big problem and it represents a significant proportion of the morbidity and mortality rates of all trauma victims. The Injury Surveillance Report showed that each month an average of 95 moderately to severely injured THI victims required hospitalisation (Report, Vachira Phuket Hospital, 2003). The majority of these traumatic injuries occurred in motor vehicle accidents, particularly accidents involving motor cycles. In a sense, Thailand's THI incidence is similar to other countries such as the USA and the UK.

2.2 The Cost of the Problem

The impacts of THI reach beyond the survivor victims. THI has long-term effects, and pose both social and economic costs to the society. The National Institute of Neurologic Disorder and Stroke estimates that the economic cost of THI in the United States exceeds \$ U.S. 25 billion annually (Borczuk, 1997) for the direct and indirect costs of medical rehabilitation and support services, and lost wages (FCA, 1999a).

Additionally, for an individual, the lifetime costs of caring for THI survivors are estimated to be between \$ U.S 4.1 million and \$ U.S. 9 million. For acute care, THI victims are hospitalised for about 45 to 60 days at a cost of \$ U.S. 324,000 per person. This point shows that the costs of hospitalisation for all THI victims is more than \$ U.S. 37 billion per year. In post-hospital rehabilitation, the service cost is on estimated \$ U.S.125,000 per year (FCA, 1999 a). In a study by Mc Nair (1999) it was reported that the cost of caring for the survivors of THI was between \$ U.S.48 and \$ U.S. 83.5 billion.

Thus, It can be seen that THI families are all confronted with enormous financial burdens that may prevail for long period of time.

2.3 The Acute Clinical Impact on THI Victims

2.3.1 Pathophysiology

The most common THI occur from blunt injuries through penetrating injuries. The degree of injury depends on the location and the intensity of the rational forces. The most common mechanisms of THI are acceleration deceleration and rational injuries. In an acceleration-deceleration injury, the head impacts against a solid object. The damage usually occurs on the inner surface of the skull, which may sometimes cause shearing of the brain and brain stem tissue. Diffuse axonal damage is common in this mechanism. The most common areas affected are the corpus collosum, the dorsolateral area of the mid brain, and the parasagittal white matter. Rotation injuries can cause axons without any obvious injury noted on CT scans, and victims are likely comatose (McNair, 1999).

The THI is divided into primary and secondary injury categories. Primary injury occurs at the beginning of the injury. Direct and immediate disruption of the brain tissue by a blunt and penetrating injury, results in a primary head injury. These include concussions, contussions, laceration, intraparenchymal hemorrhage, epidural hematoma, subdural hematoma, or traumatic subarachnoid hemorrhage. A secondary injury occurs at both the beginning and latter stages of the injury. This is the cellular response to the first injury. It causes include hypoxia, hypotension, electrolyte imbalance, infection, bleeding and ischemaia (McNair, 1999; Wright, 1999). This evidence may appear within the acute phase of injury or later during the hospitalisation period.

2.3.2 Severity

The Glasgow Coma Scale (GCS) is the most widely used scale for classifying victims' severity of head injury. It is divided into three levels of injury; mild, moderate, and severe. A mild head injury has a GCS of 13 to 15. Victims usually have transient signs and symptoms such as mild confusion or unsteady gait. Victims will feel well after a few minutes and most of them have full recoveries. Some victims may exhibit a post-concussion syndrome for a few weeks or months following injury. They may complain of headaches, photophobia, difficulty concentrating, short term memory deficit; particularly recent memory loss, dizziness, nausea, deafness, ringing in the ears, depression, anxiety, irritability, fatigue and short attention span. These syndromes generally improve with a few weeks or months of injury (Headwest, 1996a; Headwest, 1996b; McNair, 1999).

A moderate head injury has a GCS of 9 to 12. It is a more serious injury and is often concurrent with other organ dysfunction (Hickey, 1997). In this level, victims often lose consciousness. They are usually admitted to the hospital. Victims may later experience problems with working, learning or playing a role in their families or society.

Severe head injury has a GCS is 3 to 8. This is the most serious level of head injury. Victims require intensive care and management (McNair, 1999). These cases often need special medical treatment or advanced medical technology to maintain their lives (Headwest, 1996c; Headwest, 1996d). The consequences of this severe THI are likely to lead to death, disability or a persistent vegetative state.

2.4 The Chronic Impact of THI on Victims

As can be seen from the preceding summary, THI victims may experience many changes with their emotional, cognitive, personality and behavioral deficits or psycho-social consequences. Some victims may expect full recoveries, others ongoing

disabilities or persistent vegetative states. These outcomes are related to the severity of the injury.

Emotional changes in victims have three components: changes due to neurological injury, reactive maladjustment and the adaptive response. These changes are linked with cognition and perception (Armstrong, 1991). The most common psychological changes include liability, anxiety, frustration, anger, depression, denial (Hemingway & McAndrew, 1997), hostility, fear, regression, guilt, and depression (Hickey, 1997). Depression is a common problem among both acute inpatients and outpatients following THI (Glenn et al., 2001).

Cognitive changes are the most prevalent in victims, especially those with moderate and severe traumatic head injuries. These cognitive changes are a big obstacle for returning to work or living independently. The presence of cognitive changes include difficulty in remembering, planning and decision making, memory loss, short attention span, fatigue, and poor concentration. Cognitive disabilities often limit victims from returning to their previous vocations and lifestyle (Headwest, 1996b; Hemingway & McAndrew, 1997; O'Neill & Carter, 1998). Kersel et al. (2001) reported that at least 40%, and up to 74% of THI patients displayed some degree of cognitive impairment. Most THI victims in this study showed that victims levels of general intelligence, perception, and other aspects of attention and executive functioning, were least affected at both six months and one-year post THI. As for chronic changes in THI victims, Dombovy and Olek (1997 cited in Chesnut et al., 1998) reported that one-third of THI victims were cognitively impaired and 60 % were unemployed six months after discharge.

Several factors contribute to the presence and persistence of personality and behavioral deficits including the site of the injury, the severity, pre-morbid personality, and environment. Personality changes include silly, childlike behavior, as characterized by self-centeredness, an inability to show empathy, impatience, impulsiveness, depression and isolation, and physical aggressiveness (Hickey, 1997; Roy, 2000), an increasing level in irritability, frustration, egocentricity, impairment of judgement and insight, and

inappropriate expression of affection. All of these tend to generate greater distress after six months than in the acute state (Franulic et, al., 2000). Frontal lobe syndrome is one of the characteristics in THI victims' personality changes. The main characteristics of frontal lobe personality dysfunctions are recognized and they are excellent indicators of frontal lobe pathology. There are two types of disorders, so THI victims often have mixed characteristics. The first is called "pseudo-retarded" or "pseudo-depressed" disorder characteristic by a lesion at the dorsal lateral areas of the frontal lobe. The THI victims are lethargic, show little spontaneity in behavior, unconcerned, reduced sexual interest, little overt emotion, an inability to plan ahead, a tendency of impulsive decision-making, and sudden expressions of feeling.

The second disorder is call "pseudo-psychopathic" in which, the lesion is at the orbito-frontal areas of the frontal lobe. The THI victims', characteristics are childish behavior, jocular attitude, sexual disinhibition, increased motor activity, inappropriate social irritability and anger, and little concern for others (Amstrong, 1991). The characteristics are a decreased drive and initiative, flat affect, disinhibition, disregard for social protocols, apathy, lethargy, lack of goal-directed behavior, difficulties with impulse control, and an impaired sense of self-identity (Hickey, 1997). Thus, THI victims will have symptoms that include inappropriate behavior, inattentiveness, inability to concentrate, emotional liability, indifference, loss of self-restraint, inappropriate social behavior, impairment of recent memory, difficulty with abstraction, and a quiet but flat affect.

Additionally, the victims' personality and behavior deficits may be attributed to temporal lobe dysfunction, characterized by episodes of violent behavior and personality seizure disorders (Hickey, 1997). Moreover, THI also impacts on victims' psycho-social consequences. Because of their disability, they will suffer from loss of work, friends and role functions, a lack of self-esteem, self-confidence (Hemingway & McAndrew, 1997), self control, and have feelings of social stigma, powerlessness or helplessness.

In chronic changes in THI victims, McKinlay (1981) found that the relatives' perceptions on the short – term outcome of severe blunt head injury can be divided into seven categories: 1) The physical category including sensory and motor impairment, gait disturbances, fits and poor balance. 2) The language category: dysarthria and dysphasia. 3) The emotional category consists of loss of emotional control (temper, irritability etc) and loss of emotional stability (mood swings, depression etc). Emotional changes were reported very frequently and were often viewed seriously by relatives. However, THI victims' impatience, bad temper, tension, anxiety, depression and personality changes were found at both the six-month and twelve-month intervals. 4) The dependence included difficulties in self-care and dependency on others for help. 5) The subjective category consists of slowness, tiredness, poor concentration, and headaches. 6) The group of memory problems include disorientation, omission, repetitions and memory lapses. 7) Disturbed behavior patterns include violent and inappropriate social behavior.

Thus, THI victims may depend on their families for a long time. This is a very hard experience for victims to cope with, especially for those who take on the role of family caregivers. However, an empirical study found that THI individuals might deny their emotional changes, however the researchers were more concerned about the cognitive consequences of head injury than the physical and the emotional changes.

2.5 Immediate Impact on Families

A sudden or unexpected illness from injury, due to a life-threatening situation, impacts family members. The family may receive a phone call from the hospital or police saying their relatives have received head injuries. At that time, the family has little time to prepare for the situation they are about to confront. How families cope with this situation crisis has been the focus of a number of studies and will be discussed in this section.

2.5.1 General Impact on the Family During the Immediate Head Injury Phase

The families of THI victims have to confront a sudden and critical illness that can change the whole functioning of the family. For example, when family members go to the hospital, their anxiety levels increase from many stressors, such as the waiting for information, waiting for see their loved ones and waiting for victims' signs of improvement (Testani –Dofour et al., 1992). At this time the family caregivers' feelings can range from frustration to helplessness (Roger, 1990 cited in Testani-Dufour et al., 1992).

In 1977 Epperson described the process of family response during the acute phase of multiple traumas. He concluded that “families under sudden, severe stress appear to go through, or at least touch on, six distinct phases before the family system is able to reorganize, reintegrate, and regain its homeostasis” (p. 267). The phases of recovery included: high anxiety, denial, anger, remorse, grief, and reconciliation respectively. High anxiety is most often the first of the family's responses. This phase is characterized by physical agitation, high-pitched vocal tones, fainting, nausea, restlessness, and tight neck and shoulder muscles. Denial is the action of psychological preparation for bad news. Families usually often blankly refuse to discuss reality. Anger is another common reaction families may exhibit in the form of verbal abuse or expressions of aggressive behavior. Remorse is the sense of guilt and sorrow about the injury. In the grief and reconciliation phases, families' decreased anxiety, is apparent and the family can begin to accept the reality of the situation.

However, there are many factors that impact on families. For instance, Braulin and colleagues (1982) reported that when a traumatic injury occurs a family is confronted with many stressors, such as confronting a sudden change, the threat of an unfamiliar environment, as well as separation from the THI victims, uncertainty of prognosis, and financial burden.

Solursh (1990) explained that the factors that influence family behavior after exposure to a traumatic event included the sudden and under-predictable nature of trauma itself. The traumatic event may or may not lead to family stress, dependly on five criteria. First the onset of a traumatic event can be gradual or sudden, the event can be anticipated or not. The family feels he or she can control the new situation or it is out of control, the event occurs either in isolation or combines with other stress events. The victim's role in the family and the meaning of family during this event undergoes change. Second is the nature of the relationships between family members and the victim. Third are the issues of responsibility, guilt, and anger. The fourth is religious beliefs. The fifth is trauma consequence, the family's usual stresses are increased if the victim dies or has permanent physical, psychological, and personality changes.

Another study on family reaction to crisis was carried out by Kleeman (1994). It identified nine factors, which influence a family's reaction to a sudden crisis: 1) Having little or no time to prepare. 2) Having little experience with this type of stressor; either for themselves or with others. 3) Having little guidance available for what is expected. 4) Loss of control. 5) Feelings of helplessness. 6) The amount of time in the crisis state and its on-again off-again nature. 7) The degree of disruption/destruction to family roles. 8) Change in responsibilities and routine, and finally the perceived danger to and emotional impact on the family as a whole.

Again, Orto and Power (1994) identified many factors affecting the family's adjustment to THI. These included family strengths, the ability of the family to listen to health care providers' information, the ability of the family to take responsibility for the THI victim's disability, family's problem-solving skills, and the family's ability to maintain a balance between traditional roles and factors such as emotions, family concern, the family climate, and effective family coping strategies. However, they concluded that there have been several problems that effected the family's adjustment to the traumatic event. These problems are chronic stressors and create imbalances in family functioning. The lack of information, the negative sick role expectation, and the primary family caregiver's social isolation add to grief, sexual concerns and family disruption.

Indeed, when a traumatic event occurs, all families are usually affected by the rapid and unanticipated nature of the event. Based on the assumption that the family's role is to provide physical and emotional resources to maintain health and support to the victim during periods of illness, it is interesting to note that family exposure to trauma is a risk factor for family health and can create problems in a later period (Smeltze & Bare, 2000), and dysfunction if they can not cope throughout the adjustment process.

As outlined above, many caregiver researchers report that providing care to the impaired family members is stressful (Youngblunt et al., 2000) and primary family caregiver psychological well-being is related to the victim's well-being (Grossman, 1995). Wade et al. (1996), for example, found that families suffered as much if not more than the victims. Some of them may develop psychiatric symptoms, such as crazy mind (Willard, 1993), terrible shock, disbelief, guilt, helplessness, and confusion (Noyes, 1999). Family functioning itself is suddenly changed. This psychological trauma can be compounded by the family members having to make quick decisions about the victim's treatment, particularly in an ICU setting (Mirr, 1991). During the ICU phase, families feel uncertainty, a loss of future perspective, unable to control their situations. The inability to make plans for the future or seek information (Plowfield, 1999) or confusion and fear about the victims' prognosis, can also add to the problems of families. (Jamerson et al., 1996). Another family problems frequently reported in the literature are insomnia, the loss of appetite, spending more time talking, visiting and waiting of victims recovery. Some families said they were unable to deal with this stress or to protect their own health (Halm et al., 1993).

Further, Johnson (1995) researched the feelings of families trying to deal with critical illness. She found four major responses to the event. The first was identified as helplessness and the need to hope. The family usually felt worried, fearful, rejected, or as though they would have a bad dream. Secondly, the impact of intubation and extubation of the victim played a role, because they did not know the reason for using this clinical procedure. Thirdly, there was a need for better information about the victim's condition. Fourthly, they were concerns about the victim's future, the helping

process and facing possible mortality. They needed the support of other family members and friends. Thus, "...during the critical illness, waiting, was one of the most difficult tasks for family members, and all families experienced uncertainty" (Plowfield, 1999, p.237).

Therefore, Cleveland (1980 cited in Kleeman, 1994) concluded that the crisis of a traumatic event affects family task organization, structure, communication, power shifts/struggles, the alternations in family unity and alternation in specific interpersonal relationships. Some of them also feel role conflict (Titler, Cohen, & Craft, 1991). Most of the families have negative emotional response to hospitalisation (Astedt-Kurki et al., 1999).

2.5.2 Acute Stress Disorder

The psychological stress resulting from THI impacted both THI victims and their family members during the acute phase and in the long-term. Novack et al. (1991) reported that anxiety was a major problem for THI family caregivers. Stebbins and Parkenham (2001) also found that THI family caregivers exhibit clinically significant levels of psychological distress. Previously, health care providers only concerned themselves with post-traumatic stress disorder, of which ASD symptoms usually will appear within 30 days. However, individuals' acute psychological problems are not solved by health care providers. If these symptoms are ignored, they may develop into severe psychological problems. Therefore, acute stress disorder is included in the present study.

Acute stress disorder (ASD) is a new psychiatric diagnosis of anxiety. Traditional physicians were only concerned with post-traumatic stress disorder (PTSD). PTSD can not be detected until signs and symptoms appear at least 30 days after exposure to the a traumatic event. Alternatively, some specialists believe that signs and symptoms do commonly appear after a sever trauma and that they are a normative process. However, researchers are unclear about the boundary between normative and pathological. ASD should be detected and treated early. The last new version of the DSM-IV includes

ASD. The “ASD” objective was to distinguish normative and pathological acute stress response by linking ASD to predictors with a relatively poor prognosis” (Marshall, Spitzer, & Liebowitz, 1999).

The ASD occurs within 2 to 28 days or 4 weeks after facing a traumatic event, while post-traumatic disorder (PTSD) appears 3 months or more after exposure to the traumatic events (Pittman & Fowler, 1998). Because this is new diagnosis, some researchers used some items of the PTSD Symptom Scale in their studies to assess patients. In 1996 researchers developed psychometric reviews of the Standard Acute Stress Reaction Questionnaire (SASRQ) in trauma patients (Brewin et al., 1999). However, since ASD is one of the predictors for long-term post traumatic stress disorder there have been prior studies, which tried to investigate the correlation between ASD and PTSD (Bryant, 2000a; Bryant & Harvey, 2003; Classen et al., 1998).

In assessing family ASD, Susan (1999) explained that ASD is used an indicator to predict the incidence of PTSD. This disorder can appear in both victims and their family members. Pittman and Fowler (1998) described “...family members of head injury patients may anticipate death or some temporary loss of the patient’s function, loss of the present relationship between themselves and the patient and loss of time at work”. These events risk family members’ exposure. The ASD DSM IV sets the criteria for diagnosis, as follow: (cited in Pittman & Fowler, 1998, p.254-255)

- A. The person has been exposed to a traumatic event in which both of the following were present:
 - 1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or other.
 - 2. The person’s response involved intense fear, helplessness or horror.
- B. Either while experiencing or after experiencing the distressing event, the individual has at least 3 the following disassociative symptoms:

- a subjective sense of numbness
- detachment or absence of emotional responsiveness
- a reduction in awareness of surrounding
- de-realization
- depersonalization
- disassociative amnesia or the inability to recall an important aspect of the trauma

In addition, there was disassociation and other symptoms of ASD which the American Psychiatric Association (1994 cited in Pittman & Fowler, 1998, p.254) defined as “a disruption of the integrated functions of consciousness, memory, identification or perception of the environment. This disturbance may be sudden or gradual, transient or chronic”.

Moreover, Pittman and Fowler (1998) identified three phases of exposure to the traumatic event. Phase 1 is an initial brief response phase, in which family members may have an outcry of fear that appears within a few minutes of the event. Phase 2 is a phase of recovery and healing. This phase will appear within a few hours or for a few days. Phase 3 is an adaptation phase. In this final phase, family members deal with the stress using coping mechanisms. The outcome can be both negative and positive.

Since ASD is one of the predictors for long-term post traumatic stress disorder, the prior studies tried to investigate the correlation between the ASD and PTSD. There has been some debate about ASD (Bryant, 2000b). For example, Classen et al. (1998) found that acute stress symptoms were one excellent predictor of post traumatic stress symptoms 7 to 10 months after people were confronted with a traumatic event. They also suggested that the value of understanding and identifying acute stress disorder symptoms, because they provide an opportunity for early case identification and contribute to the intervention to prevent the development of PTSD.

In contrast, several studies showed that some people who had met the criteria for ASD in the initial trauma phase, later developed PTSD, also some people developed who PTSD later, did not initially meet the criteria for ASD (Bryant, 2000b).

However, whether the ASD diagnosis has the power to predict and identify those who will develop PTSD or not, it is useful for health care providers to increase their effectiveness in the early prevention of PTSD. Moreover, it can help those who are at risk of PTSD, and support those who suffer ASD at the same time (Bryant et al., 1998).

In conclusion, ASD requires at least three dissociative symptoms and one symptom of re-experience, avoidance, or arousal categories. The diagnosis of ASD is able to positively predict later PTSD (Brewin et al., 1999; Classen et al., 1998). Most of the previous research focused on injury victims, but less of them paid attention to the family caregivers who also have trauma experiences from THI. The present study is based on ASD, to identify family caregivers' psychiatric problems, which may disturb their abilities to maintain their family functioning, psychological well-being, or develop and employ effective coping strategies.

2.6 Impact on Families During the Year Following the THI

2.6.1 The THI Impact on Families

A family is a dynamic system. The significant responsibility of the family unit is to maintain stability. The consequences of disability or impairment from THI, chronic illness as well as other diseases with which family members are confronted, create stress in the long-term family system functioning is negatively affected by THI victims behavioral changes for along time of meeting the victims' need (Kosciulek, 1999). Newby (1996) advised that health care providers should be concerned with this and attempt to link the patient and family's psychosocial dimensions into a chronic illness typology.

As stated above, we know that the onset of THI is very rapid. Family members have little time to prepare themselves to deal with the sudden crisis. Family members confronted with their love ones' symptomatically of this chronic illness in three conditions: progressive, stable, and worsening that upon the area of lesion and severity.

The outcome of this chronic illness may be death and this state of uncertainty affects all phases of family adaptation. However, if the THI victims survive a moderate or severe THI, those victims often suffer disability or impairment of functioning. This disability can result in impaired cognition, movement, physical deformities or behavioral changes. The THI victim's disability can be categorised as mild, moderate, or severe.

Therefore, it may be suggested that THI family members are confronted with either the critical, chronic, or terminal phase of THI illness time line (see Figure1). In each phase, family members may have difference sources of stress, needs, burdens, or management strategies to solve their problems, which will be explored in the present study.

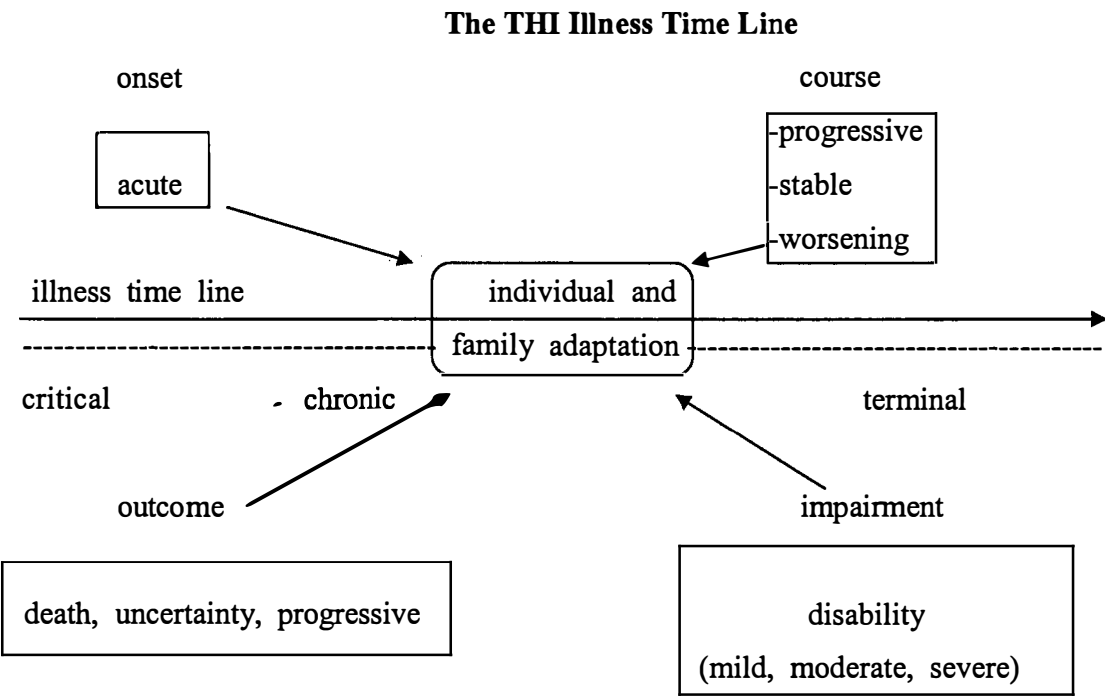


Figure1: Adapted from Newby, N.M. Chronic illness and the family life-cycle.
Journal of Advanced Nursing, 23, 786-791, 1996.

2.6.2. Long-term Physical and Mental Characteristics of Victims

A number of studies have identified the importance of helping families confront these problems of physical and mental changes. Long-term disabilities from THI are experienced in 70 to 90 % cause of mild head injury. Most of them have verbal problems and 59 % have impaired memory. About 10 % of all mild THI survivors have permanent neurological deficits and one-third cannot return to previous employment six months following the THI. Almost 15 % will not return to work many years or months later (FCA, 1996a). In addition, as mentioned in the Emanuelson's (1997) report, 48 % of survivors suffer from at least one functional impairment. Moreover, in an empirical report, less than 10 % of THI survivors receive long-term rehabilitation programs, and it is very difficulty for the family to find the funds to support their living (Roy, 2000) and appropriate rehabilitation programs. From this point of view, there can be no doubt that for families, especially the ones that accept the responsibility of caring for the survivors THI, can be an overwhelming experience for the family.

2.6.3 Impact on Family Caregivers' Physical and Mental Health

The studies showed that the long-term impact on primary family caregivers to THI survivors, include mental health deterioration, especially depression and anxiety from their experiences of dealing with the day-to-day living and caring for a dependent person (DesRosier, Catanzaro, & Piller, 1992). For example, Mintz et al. (1995) found that 52 % of THI caregivers have mild to moderate depression, and 48 % have mild to moderate anxiety. This finding is similar to the Family Caregiver Alliance's (1999b) study, reporting that 58 % of THI caregivers exhibited psychological distress. The study noted that the "...primary family caregivers with their own health problems, often find it difficult to continue to provide ongoing care" (FCA, 1997, p. 2). Concurrently, Brzuzy and Speziale (1997) reported that 80 % of THI victim family members have moderate to severe stress in the first six months. Harris et al. (2001) found that THI family caregiver depression correlated with victim behavior changes.

A study by Wade et al. (1999) showed that caregivers who look after the severely injured had persistent stress. This evidence suggests primary family caregivers run the risk of experiencing psychological symptoms nearly twice as much as that of orthopedic trauma caregivers. Some feel their lives are turned upside down. This finding is consistent with Prior and Sawyer (1999) researched levels of family functioning. They found that in a one-year follow-up of a THI family, the family had a lower level of functioning. This result is consistent with Oddy, Humhprey, and Uttley's study (1978). They found that family caregivers suffered over the first six months and had emotional problems requiring the use of minor tranquilizers. After one year, their stress levels showed no sign of reduction. They lived with grief, restructured their lifestyle, lost friends or reduced their social networks. Secrest's study (2000) found that the transformation of the relationship of the family caregiver experiences of stroke survivors were fragile; they didn't know how long they could manage in their caregiver role and maintain vigilance; They suffered intensely when dealing with heavy loss and a weighty responsibility.

In the Rivara et al. (1996 cited in Christensen, Skagges, & Kleist, 1997) study, they examined changes in families functioning three years after the THI of a child. The result showed that family functioning and relationships failed to improve, particularly in severe THI cases. Therefore, they identified some positive indicators. These positive outcomes are rigidity, high levels of expression, strong support systems, good family functioning before the THI, outside activities, good communication skills, problem-solving skills, low levels of family conflict and stress, positive belief and strong capabilities. Family functioning or the role of the family is one factor which affects the THI victim's development. The results of the study showed that the primary THI caregiver who experienced acute emotional reactions, was both predictive of the victims' outcome. In the long-term, caregivers coping resources may impact on the development of children's behavioral functioning following THI (Kinsella, Ong, Murtagh, Prior, & Sawyer, 1991).

Max et al. (1998) explored family psychiatric disorder at six months and one year. They found that at six months only family functioning was significantly related to psychiatric disorder. At one year, family behavior such as control, communication, role, and problem solving were significantly related to psychiatric disorder. This means that in the long-term the family had a high risk to psychiatric problems. Because these families may have to deal with chronic feelings of loss without death and guilt for not preventing their loved ones from harm, they may suffer from dysfunctional (Marthin, 1994). The affected family may find themselves living in limbo (Huber & Testani-Dufour, 2000), and feel unable to plan for the future (FCA, 2000). Waston (1992) claimed that the family usually lacks information, preparation, and training to provide daily living skills before the victim is discharged. Thus, Strauss (1984 cited in Waston, 1992, p. 58) said “What happen to families in the home is over the horizon and largely invisible to health care providers”.

2.6.4 Family Caregiving Burden

2.6.4.1 Defining of Caregiver Burden

For Zarit (1990), caregiving burden is defined in different ways by each research team. However, most of the previous researchers emphasized subjective burden more than objective burden. In reality, the effects on family caregivers are multidimensional. So Zarit, Reever, and Bach-Peterson (1980) concluded that burdens consist of interrelated components, and subject responses to the experience affectly the evaluation of the objective problems.

Moreover, there have been many definitions of caregiving burden. For example, Poulshock and Deimling (1984) defined it or the negative responses and effects which caregivers perceive while providing care. In addition, Montgomery, Gonyea, and Hooyman (1985) explained that there have been two types of burdens: objective and subjective burden. The objective burden impacts on caregivers' emotional cost, attitude,

and emotional reaction in relation to the quality of caregiving, while subjective burden reflects the disruptions or changes to the family caregivers' life.

George and Gwyther (1986) defined caregiver burden as “...the physical, psychological, emotional, social, and financial problems that can be experienced by family members caring for an impaired adult” (p.253).

In brief, caregiving burden occurs when someone who takes on the role of caregiver feels that providing care results in the disruption of his/her life. The impacts effect caregiver health, psychological well-being, social standing, finances, role strain, and so on.

2.6.4.2 The Burdens of Caregiving

Improvements in medical care have made THI victims increasingly likely to survive. The consequence of THI affect not only victims but also their families. In 1998, the US Congress reported that 19 to 22% of US families have to deal with the burden of the sudden onset of brain disorder. This is especially true for THI with a prevalence rate of 2,500,000 to 3,700,000 people per year (FCA, 1999a). The literature consistently reports that the impact on families comes from the victims' psychological and emotional changes more than the physical ones (Stavors, 1987). In short, THI is a significant source of family burden and stress during both the acute hospitalisation and long-term phases. Moreover, long-term caregiving is a dynamic process and the burden changes over time (Brooks, 1991; Elmstahl et al., 1996).

Caregiving burdens are the broad effects on the THI family caregiver. Brooks and McKinly (1983) found that moderate to severe burden was frequently reported by THI family members and the degree of burden may increase over time. Especially, victims' high levels of cognitive impairment and social aggression were found to be associated with greater caregiver burden (Minnes et al., 2000). Livingston, Brooks, and Bond (1985a) and Livingston (1986 cited in Kay & Cavallo, 1991) reported that relatives of

severe THI victims had more psychiatric disturbance and more subjective burden than relatives of mild THI victims. As noted by Livingston and Brooks (1988):

“The burden on the caregiver after head injury is easier to appreciate than to define. It involves the multiplicity of social, emotional, and physical impacts that the injury has on caregivers. It also depends greatly on the perception of the caregiver and his or her capacity to cope. It is bound to effect on the caregivers and the patient with brain damage, but also on the nature of the interaction between these individuals and other family members” (p.8)

Chou, LaMontage, and Hepworth (1999) said that “The demands of care on caregivers, as determined by the care receiver’s functional limitation, cognitive deterioration, and degree of disturbed behavior, can influence their burden”(p.207). Their results showed that experiences of burden could be divided into four types: physical burden, emotional burden, social burden, and financial burden. In the role of caregiving, caregivers have less time to rest. This can lead them to have physical disruptions, less opportunity for social activities, and have less time for work outside. Moreover, in long-term care there are financial problems. In addition, they suggested that primary family caregiver coping strategies were related to burden. Problem-focused coping resulted in less primary family caregiver burden. In contrast, emotional-focused coping resulted in more burdens. However, this study had a descriptive cross-sectional design and results did not cover how family caregivers manage or solve their crisis problems.

Prior research indicates that THI is a source of considerable caregiver morbidity, especially in severe THI cases, when compared with other traumatic injuries. In a longitudinal study, Wade et al. (1998) looked at severe THI family caregivers at six and twelve month follow-ups. They found that primary family caregivers had high levels of family burden, stress, psychological symptoms, and family dysfunction; especially at 6 months. After that, family dysfunction problems decreased. However, Brooks et al. (1986 cited in Wade et al., 1998) reported that families of adult THI victims had ongoing stress for up to 5 years after the THI. In a similar study, Burgess et al. (1999)

found that primary family caregivers of moderate and severe THI victims had high levels of burden. This burden related to primary family caregivers' psychological distress, and high impact on family functioning. Family dysfunction is usually found at six and twelve months after THI (Taylor et al., 1998).

A review of the literature indicated that THI has a large impact on families. The long-term consequence of THI have a long-term negative impact on the family, particularly on the primary family caregivers (Kreutzer et al., 1992) because THI survivors often have neuro-psychological problems which can be stressful for families and primary family caregivers (FCA, 1999d). The family caregiver is a significant person confronted with the new task of caring for the victim in their new way life. The family caregiver may fear about the present and future, thus creating anxiety, depression, and distress to the family and the family may have emotional strongly evidences of ASD. However, O'Neil and Carter (1998) claimed that negative family responses may still be present one year after the injury, but their burden is not always related to the severity of the THI. To this point, there still needs to be more exploration for understanding the impact of THI on individual family members.

The results from the research indicated that caregivers had significantly higher levels of family burden at the six and twelve month follow-ups (Taylor et al., 1998; Wade et al., 1996). The THI renders caregivers at a marked risk for ongoing neuro-psychological, behavioral, and social problems. Caregiving experiences may also change over the phases of adaptation.

Family caregiver burden is accepted as a variable that is concurrent with caregivers psychological distress, and impacts family function. If the THI victim is the person who earns the family income, this places a financial burden on the family. Moreover, the caregiver's burden may be generalized across different domains of his or her family life (Burgess et al., 1999) and culture. All of these should be more clearly defined.

Again, most of the research settings were located in the USA. In Thailand, family caregiving research has been most heavily studied in relation to gerontology, in stroke and dementia patients. Livingston and Brooks (1988) suggested that researchers should keep this in mind, "...this is because the research spans over different cultures and different populations, and a wide range for patients and their caregivers. There can be no doubt that family burden after major head trauma is significant however difficult it is to measure and define" (p.13).

2.6.5 Family Caregivers' Characteristics

There is no single word to describe what it is like to have a family member suffer a THI. A family caregiver in THI can be described as coping with overload for providing care in the uncertainty of prognosis and the great burdens of rehabilitation care. Family characteristics are other factors for assessing how effectively family caregivers can go through their caregiving roles.

Gender. Gender is one of the most significant characteristics to define a caregiver. In a study by the Family Caregiver Alliance (FCA, 1997), it is reported that 17 % of family caregivers are spouses and 36 % are adult children. Most of them were wives. The second peak was adult daughters (FCA, 1997) especially unemployed daughters (Garity, 1999). However, men can also be found to take on the role as family caregiver, but may have some difference in perception and strategy. Bateson (1991 cited in Garity, 1999, p.41) found that "...women frequently use the gender strategy of enfolded activity in which they are activity within another, whereas men use a linear approach in which tasks are completed one at a time until the job is finished. That means women usually use a parent-infant model while men use a task-oriented workplace model".

Age. The FCA (1997) reported that over half (53 %) family caregivers are under the age of 65 and also work outside the home. However, Horowitz (1985) recommended that the age of family caregivers seemed to be less a significant indicator of family caregiver ability.

Health Status. Family caregivers deliver the day-to-day care for long-term THI victims. Several recent studies have summarized that being a family caregiver is a stressful event, putting him or her at risk of emotional and physical problems. These results are supported by the Mintz et al. (1995) study. They found that 52 % of THI family caregivers had mild to moderate anxiety. A similar finding was reported by Douglas and Spellacy (2000) and the FAC (1999b) found that THI family caregivers had psychological distress. Therefore, Vitaliano, Zhang, and Scanlan (2003) who reported that family caregivers is the a group at greater risk of health problems.

Culture. Phillips et al. (1996) mentioned that caregiving in a family is a cultural environment. The dynamic of caregiving is deepened by race and culture. Most Thai families are extended, if the victims are elderly, most often it is the adult daughter who take on the role of caregiver. In Thai culture, the social value of Katanyu Katavedi is one reason why family caregivers decide to adopt this role. This value is composed of three dimensions including the benefits that parents have bestowed upon their children, the children's' gratitude towards parents, and obligatory actions in paying back parents (Kespichayawattana, 1999; Sirapo-ngam, 2003). In addition, Kespichayawattana (1999) found that Thailand's frail elderly family caregiver group expressed the positive consequences that occur in their lives self such as happiness, a sense of self-pride, and warmth. This point is not mentioned in Western research of family caregivers.

2.6.6 Types and Quality of Prior Relationships

Individual family members may have different responses to the THI. Caregivers fall into the following categories; parents, spouses, siblings or daughters.

2.6.6.1 Parents: Parents may feel numerous changes in the family (Barker, 1990). Kinsella et al. (1999) investigated family functioning using the Family Assessment Device (FAD), which assesses family problem solving, communication, roles, affective responsiveness, and affective involvement. They found that after one year, the FAD scores were low, but the lowest scores were detected during the first three months,

because parents were distressed by the victims' behavioral impairment. This result is similar to a study by Youngblunt et al. (2000). It was suggested that "...if parents became depressed, their own functioning will be impaired" (p. 230). In mild and moderate THI cases, parents had few changes, but in three months, the acute physical and psychological stress felt by the parental caregivers increased at all levels of THI severity. Furthermore, after three months, parents continued to deteriorate in physical well-being, and psychological well-being; especially in severe THI cases. This result was confirmed by Livingston et al. (1985b) was claimed that some of the parents' phenomena did not appear in the quantitative data, but were apparent during in-depth interviews.

According to epidemiology, THI usually occurs in a young population. Therefore, much of the research shows that most of the family caregivers were parents.

2.6.6.2 Spouses: Spouses are frequently the caregivers to THI victims. There have been several studies indicating that wives of THI victims suffer more psychological distress than the victims' mothers. This is supported by Mass-Clum and Ryan's study (1981). They found that over one-half of the wives felt frustration, depression, anger, and had more negative reactions than mothers. In the acute period, when spouses received notification of injury, they felt shock, numbness and they could not decide what to do. When they arrived at the hospital, they looked for information on their husbands. While waiting, they felt powerlessness, and sensed a lack of self-control (Leske, 1992b). Acon and Roberts (1992) showed that THI wives are faced with role changes, and the role of caregiver caused emotional reaction such as feelings of hope and a need for support. Moreover, they deal with economic changes, the unpredictability of the victim's behavior, the new and difficult role of caregiver, a sense of living in limbo, changes in the marital relationship (Zeigler, 1987; Zeigler, 1999), loss without death, and the numerous new caring tasks that may lead spouses to incur mental health problems (Cossette & Levesque, 1993). Peters et al. (1990) found that there are three factors affecting this relationship: the severity of the THI including the victim's physical restriction, time since injury and psychological problems; recent family life changes

including financial problems; and the coping strategies and personality of the spouse. In addition, Resnick (1993) described other factors affecting the marital relationship, such as the spouses' restriction by THI victims' family, embarrassment, and family arguments.

Gender differences also influence how spouses respond to taking on the role as family caregiver and how they deal with problems in the THI victims. Willer et al. (1991) found that the main problems for THI wives were their husbands' personality changes, cognitive impairments, lack of insight, financial problems, loss of emotional support, sharing and companionship and feeling unable to meet their children's needs. Their coping strategies included developing a realistic but optimistic outlook, becoming assertive with the disabled husband, seeking assistance from health care providers, in-laws and insurance, allowing the husband to be independent, taking time for themselves, going on family outings, and participating in support groups. By contrast, husbands who take on the role of caregiver were affected by the wives' loss of autonomy, mood swings, insecurities and over protectiveness, reluctance to leave the home and general changes in life style. Their coping strategies included suppressing feelings, being careful not to attribute all family problems to THI, defining new roles and responsibilities, participating in support groups, and maintaining a sense of humor (Willer et al., 1991).

2.6.6.3 Siblings: Siblings are also affected by THI. A study by Orsillo, McCaffery, and Fisher (1993 cited in Gill & Wells, 2000) found that 83% of sibling, living with THI survivors were in a distress state. Siblings felt their lives were forever different from what they expected. They explained that the victims' cognitive changes, interpersonal skills, and behavior changes were very difficult for them to deal with. So Gill and Wells (2000) concluded "when one sibling in a family experiences change, the other siblings assume new behavioral. Because of these new behaviors and responsibilities, the participants reported feeling either like a mother or big brother or sister to the injured sibling" (p.51). This result is similar to Tozer's finding (1996) explained that siblings who lived with a disabled victim had less of the parents' time and attention, more

restriction on family and outside activities, interrupted meals, and reduced leisure, and study time from helping their parents look after the victims.

2.6.6.4 Daughters: The experience of transition from daughter to caregiver may begin at the time of hospitalisation. Some daughters have serious difficulty in confronting this new role, especially in the first few months of home care. The study by Fraser (1999) explored the experience of transition for daughter caregivers to stroke survivors by a phenomenological, longitudinal study. The results showed that in the first few months, the family caregiver was faced with functional losses, cognitive and emotional losses, and the problems associated with and paying for care and cost of care. Moreover, family caregivers felt that this new role impacted on their close relationships. In the long term; they may come to breaking point. The emotional changes reported included taking one day at a time and struggling to hang onto hope.

The literature reviewed about indicated that the type and quality of relationship between THI victims and family caregivers might influence and impact on family caregivers' adjustment and adaptation. More research should be conducted specific to Thai culture.

2.6.7 Family Caregiver Needs Following the THI

2.6.7.1 Family Caregiver Needs in Acute Period

In most cases, after a head injury, victims are admitted to hospital. The more severe cases are admitted to the intensive care unit (ICU) for life-sustaining treatment. Others will be admitted to the neuro-surgical department.

As outlined, both head injury and unexpected hospitalisation are very stressful experiences for families (Chadwick, Kelly, & Sim, 2000), especially if the victims suffer multiple traumas. In the emergency department and ICU environment victims are usually separated from their families. This can worsen the family members' ability

to assess the victim's progress. Sometimes family members may overestimate the severity of the victim's condition. Several researchers have studied the needs as perceived by the THI family members during this time.

Mathis (1984) studied the personal needs of family members of critically ill patients with and without acute traumatic head injury by using Molter's Critical Care Family Needs Inventory (CCFNI). The results showed that the ten most important needs of family members of patients with acute THI were; to feel that hospital personnel cared about their relative; to know they would be called at home if there were any changes in the patient's condition; to know exactly what was being done for their relative; to be reassured that the best care possible was being given; to have their questions answered honestly; to be told about how their relative was going to be treated medically; to receive information about the patient's condition at least once a day; to feel accepted by hospital personnel; to feel there was hope; and to be given specific facts concerning the patient's progress. In needs of families without acute THI were similar, however, there were differences in the frequency of identified perceived personal needs. The two needs, which differed between the two groups, were concerned with knowing his or her relatives' chances of becoming well, and to have explanations given in terms he or she could understand.

Engli and Kirsivai-Farmer (1993) conducted a similar study to Mathis's study (1984), addressing the perceptions of family members with and without acute traumatic head injury. They found a difference. Similar to Mathis's study there were four needs identified: to have questions answered honestly; to feel there is hope; to have explanations given that are understandable; and to know specific facts concerning the patient's progress. The remaining six perceived personal needs were difference in Engli and Kirsivai-Farmer (1993). There were six needs in addition from the previous study they were: to know the prognosis, to be called at home about changes in the patient's condition, to have a specific person to call at the hospital when unable to visit, to know how the patient is being treated medically, to have explanations that are understandable and to see the patient frequently.

According to the family's claims that they experienced a significant increase in stress during the acute phase of injury, Elliott and Smith (1985) used a multidisciplinary approach for meeting family needs. This approach proved advantageous for family members. For example, it could reduce family stress; family members were provided with correct; consistent information, family members had knowledge of victim prognosis and treatment; and realistic expectations. However, an obvious limitation of this study is that it only focused on hospitalised patients. It makes any assumptions about family functioning after the patient is discharged.

In a more recent study, Mi-kuen, French and Kai-kwong (1999) identified the needs of the families of neurosurgical patients in a Hong Kong ICU. The study showed that the major needs of family members were related to assurance, to be called at home about changes in the in-patients' condition, while needs for support and comforts were much less important. When comparing nurses' and family members' perception of needs, nurses under-rated most of the needs that the families expressed. Therefore, family needs often are not suitably met.

2.6.7.2 Family Caregiver Needs in Long-term Period

There have been several studies about the long-term needs of primary family caregivers. For example, Weeks (1995) studied the educational needs of primary family caregivers to newly disabled adults. She found that most of the primary family caregiver concerns were concerned with how to learn to normalize the daily routines of the newly disabled adults. Merkley (1997) reported that THI family caregivers needed information related to symptom management. This finding was confirmed by Campbell's (1988) study. She assessed the perceived needs of relatives living with severely head-injured patients and the helpfulness of support groups. The study showed that the family had three areas of need; educational, psychological, and social. Educational needs included learning more about the effects of head injury, to have questions answered honestly, to learn about community resources, to obtain information about financial assistance, to learn methods of adjusting to behavioral changes, and memory loss, to know where to find someone to

help with physical care, and to learn about physical care. The psychological needs included feeling that there is hope, feeling able to predict the future, to have emotional support, to talk about feelings, and help with marital adjustments. The social needs included having the time for activities outside the home, guidance in communication skill, to have help in reorganizing family activities, and support from a religious institution. In this study, family support groups were identified as being helpful on family members' stress levels concerning educational and psychological needs, but supported less in social needs.

Stebbins and Leung (1998) conducted a cross-sectional study to explore the needs of the family during the first two years and beyond. In the first group, family needs were health information, medical, and professional support. This finding is consistent with Mathis (1984). Beyond two years, family needs were expanded to those associated with living in the community, the support of family, financial resources, community support, caregiver support, long-term planning, health information, and medical and professional support. These findings showed that the family needs and were not met, often increased in the long term, because these needs are often overlooked by health care providers and other of community support agencies.

However, most of the studies were quantitative in their approach and cross-sectional in design. As the above studies showed family needs will change overtime. The results from previous studies were limited by research instruments and variables.

2.6.8 Informal Supports

Family caregivers are the backbone of caring or providing long-term care for chronic illness and disability. Social support and support groups or self-help groups are the most common and important resources available for family caregivers to deal with their various emotional, physical, social, and financial hardships.

2.6.8.1 Social Support

Social support is accepted as a resource for family caregivers to deal with stress and in short-term and long-term crisis (Lindgren, 1990). Similarly, social support is a predictor of family caregiver emotional distress (Sander et al., 1997) and it plays an important role in psychological adjustment, in individuals and families with THI victims (Weinert, 1988 cited in DesRosier et al., 1992). Williams (1991a) reported that there were four reasons accounting for families' needs of social support after THI.

Firstly, family structure; nowadays most families are small. Secondly, families that must deal with new and difficult experiences include cognitive and social problems, lack of information, lack of services, uncertainty of the future, financial problems, role changes, social isolation, and prolonged caretaking. Thirdly, health care providers often do not know enough about the victims and their families' basic data. Health care providers' interventions for them are a short in duration yet families often live with the victims for a long time. Williams (1991a, p.311) said "... the community is the logical place for people with and without disabilities to find support". Fourth, families need social support to bridge the gaps in their lives, especially after returning to the community. For example, they need a service system for rehabilitation. In reality, agencies only support or provide care during the short-term, but a lot of time may pass before an individual is able to make connections between one system and another (Williams, 1991a).

Additionally, THI family caregivers need spiritual support. In brief, social support plays a significant role in helping family caregivers cope with the stress of the event. Western health care service systems create many programs to support families and help them to deal with this serious problem. For example, they have family-to-family programs aimed at providing emotional support and diffusing information from one family member to other family members. Self-help groups is one strategy commonly adapted to support a family. Each family member can share feelings and explore alternatives together to cope with the difficult situation. (Williams, 1991b). The Mauss-Clum and Ryan (1981) and Roger and Kreutzer (1984) findings demonstrated that strong family support positively affects the level of the THI victims' recovery. In addition, Zeigler

(1999) suggested that friends and family are customarily a source of support during a time of grieving.

When confronted with the serious situation of THI, families require a strong social support network to meet their needs. In Thailand, there is no kind of social support for victims and families. After discharge from hospital, both victims and caregivers must deal with problems by themselves. Everyone concerned experiences loneliness. This is an important point for Thailand, and a new dilemma for health care policy and it should be set in the near future.

2.6.8.2 Support Groups or Self-help Groups

There have been several research studies that reported that support groups or self-help groups are very helpful for THI family caregivers or THI victims. A support group is “...a group organized to provide social support, factual information, and opportunities for emotional interaction” (Campbell, 1988, p.320). For example, Halm (1991 cited in Harvey et al., 1995) recommended that family members perceived a support group, as having benefits for them. Families believed the group could help family members to improve knowledge and understanding of the patient’s illness, ability to share feelings, reaction anxiety, and improve perceptions of hope. Acorn and Roberts (1992) suggested that the final outcome is the well-being of family caregivers, moreover come to realise are not alone in the THI situation and they can learn new coping methods from each other.

Again, Harvey et al. (1995) implemented support groups for trauma patients’ families during the patients’ hospitalisation periods. She believed that a positive outcome from support groups might be maintained after the patient leaves the hospital. The outcome of this support group gave trauma families the opportunity to share experiences, express emotions, find mutual support, learn coping strategies and community resources. In addition, knowledge of the support groups can help trauma nurses increase their knowledge of family dynamics and improve sensitivity among health care teams and

trauma nurses so as to provided victims and their families with holistic care planning. However, this study was not implemented in the special field of trauma. Based on different organ injuries, the support group outcomes may be different.

A self-help group is “ a group setting for families that can provide a highly supportive environment in which families can share feelings and explore alternative ways of coping with difficult situations” (Winch & Christoph, 1988 cited in Williams, 1991a, p. 305). Stewart (1989 cited in Williams, 1991a) viewed self-help groups as social support. These groups help THI families search for the meaning of THI and attempt to master this threatening event. The THI families acquire the ability to manage their specific internal and external demands. Then THI families can decide on how to maintain their relationships. However, these groups may lead THI families to have a subjective experience of loneliness if he or she perceived to have a deficiency in family social relationships within unfamiliar personal networks. Lastly, self-help groups gave the THI families an opportunity to evaluate themselves and situations and compare with each other.

In brief, both social support and self-help groups can play a valuable part for buffering family caregivers to confront with the multitude of stressors caused by the THI event. Therefore, health care providers such as trauma nurses and physicians may advise THI family caregivers to participate in these groups.

2.6.10 Financial Issues

The consequences of THI have had a deep impact on family financial problems. Jacob (1988 cited in Williams, 1991a; Sander et al., 2003; Schwartz et al., 2003) found that financial issues were reported as the most concerning for families. Harris et al. (2001) and Testani-Dufour et al. (1992) found that THI family caregivers usually deal with the financial problem. Moreover, Stambrool and Peyers (1993) reported that high financial problems were correlated with spouse dissatisfaction. A national evaluation of using ventilators for THI victims, reported that this result in a serious financial problem for

families during the period of hospitalisation (Aday, Aitken, & Wegener, 1988 cited in Turnbull & Ill, 1991). The financial factors include direct and indirect costs. Direct costs are inpatient care, home modifications, and respite care while indirect costs are loss of income, interference with career advancement, and the travel cost incurred in visiting victims in the hospital and taking them to rehabilitation out-patient cases.

The Hall et al. (1994) findings showed that post THI, family caregivers were confronted with not having enough money to meet their basic needs, particularly in low income families (Ward & Carney, 1994 cited in Pierce, 2001). They felt they lacked economic security. Paterson (1993) suggested that the concept of analyzing the financial effects of the disability on the family caregivers. This analysis was divided into four parts: financial input, financial process, financial results, and the environment, which includes funds to support family caregiver in the long-term. Finances also play a significant role in predicting the family caregivers' psychological well-being (Dauglas and Spellacy, 2000; Moore, Stambrook & Peters, 1993)

In Phuket there are resources of this kind. Thailand has third party insurance for traffic accidents, but it provides limited of only 50,000 baht per victim. This amount of money is not enough to cover expenses when they come back to community. It is one of the reasons why victims do not receive the appropriate amounts of continuous rehabilitation service. This is another important point which the Thai government should be concerned about in the future.

2.7 Coping Strategies

THI can be a source of stress on family caregivers, because impacts are multidimensional and enduring. Coping is a process by which the individual uses effort for dealing with their stressors. Now coping is recognized as a major mediator in the stress process. According to Lazarus and Folkman (1984), coping is defined as a process by which an individual is constantly changing his or her cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or

exceeding the resources of the person. There are two main functions of coping strategies: problem-focused coping and emotion-focused coping strategies. The problem-focused coping strategy aims to cater to the problem, such as acquiring necessary information, time, accurate appraisals and exhibiting the ability to generate alternatives. On the other hand, an emotion-focused coping strategy is used to relieve the emotional impact of the stressful situation. There are several types of emotion-focused coping, such as wishful thinking, seeking social support, avoidance and blaming oneself. Moreover, Ignatavicius and Bayne (1991) mentioned that problem-focused coping strategies included confrontation, distancing or denial, self-control, accepting responsibility, emphasizing positive aspects of an event, event review, humor, social support, and tension reduction (i.e. physical exercise, meditation, or yoga exercise).

As McCubbin and McCubbin (1991) defined family coping is a specific effort of an individual family member or the family as a whole, to attempt to reduce or eliminate their stress.

Coping with the effects of THI is a challenge not only for trauma victims, but also for their family members and caregivers. Willer et al. (1991) reported that THI family members' coping strategies included cognitive restructuring or reframing, maintaining enjoyable activities and the pursuit of emotional support through organized family support groups. This finding was similar to Minnes et al. (2000) study. They found that Canadian family caregivers of a person with THI used both problem-focused and emotion-focused coping strategies. The problem-focused coping strategies are active coping strategies. Canadian caregivers were seeking social and spiritual support, as well as mobilizing the family. On the other hand, the emotion-focused coping strategies included palliative reframing and passive appraisal.

Reeder (1990) studied how families cope with serious injury during the first three days. She found that families' perception of the injury event is the best predictor of family coping. Most families described their feelings as shocked, numb, painful, sick, and crushed. She found that it was most important for them to be told honestly about the

victims' prognosis. In addition, the most difficult aspects to deal with could be divided into two broad categories: family-related and hospital-related issues. Family-related issues included family religious beliefs and philosophies, family problems such as conflict of relationships; family privacy; coping strategies, alcohol related problems, and the effects on individuals fears of losing family members. Hospital-related issues included positive and negative feelings such as lack of information received and difficulty of communicating with physicians.

The longitudinal analysis of THI family caregivers coping with THI by Kosciulek (1999) reported that there were two dimensions that underlined family coping with THI across a two-year time period. The first coping dimension was similar across the two-year time period. The finding was that family caregivers used both cognitive and behavioral coping strategies to manage their stress. The second coping dimension was interpreted as seeking professional help versus intra-family coping. Wongvatunyu (2003) explored mothers' experiences of helping young adults with THI. She found that the mother's way of coping was by thinking positively about the victim's situation and wishing and hoping for the best.

Lynos (2001) noted that female partners living with post-traumatic stress disorder victim coped with their stress by attempting to maintain a semblance of control over their lives, by avoiding conflict with their partners, and by attempting to achieve a sense of emotional balance between activity and reactivity. Almberg, Grafstrom, and Wimblad (1997) studied the demented of relatives' coping strategies. Relatives used both emotion-focused coping strategies, which included wishful thinking, stoicism, grieving, worrying, self-accusation, and acceptance of the situation. In contrast the problem-focused coping strategies included confronting the problem, seeking information, seeking social support. In the empirical phenomena, family usually used mixed strategies.

Luevanich (1997) reported that when a family member has trauma from a traffic accident, the relatives use both problem-focused and emotional-focused copings. Most

of the relatives in the study were concerned about the uncertainty of the patients' future, family functioning and the possible loss of their relative, because most of the traumatic patients were in the adult stage of development.

In investigations recent into coping strategies, attention was paid to spiritual and religious needs. Ignatavicius and Bayne (1991) found that faith in God was another way for people to cope. In Islam, chronic mental problem that family caregivers were coping with were experiences more understanding about family member health problem, using religion and beliefs in God, hope, and learning through experience.

In many Thai studied conducted around mental illness, the family caregiver reported three common ways of coping strategies including consulting family members to help to solve problems, depending on religion, and talking with others (Pattanapitpaisarn et al., 1997 cited in Sethabouppha, 2002). In Thai culture, Buddhist teachings are significant beliefs in influencing the family caregiver's coping strategies. Baumanm and Englert (2003) claimed that religion helped the family caregivers to find meaning and relieve their depression.

In summary, family caregivers have devised different strategies to help them deal with the burdens and difficulties of their new roles. Understanding the various THI family caregivers coping strategies will enable health care providers to provide them with more effective of coping strategies. Studies have been conducted of THI family caregivers within the Thai cultural context, therefore the present finding will be focused on the qualitative aspects of THI family caregivers.

2.8 Conceptual Framework

Recent research in the field of THI has investigated the impact on the family caregiver caring for a THI victim at the initial of injury, six months, and one year later. As THI hurts family caregivers socially, emotionally, and financially for a long time. Especially in the initial of injury, the family caregivers prone to ASD. This is a new psychiatric diagnosis of anxiety. The family caregivers use their psychological mechanism to deal

with their stress event (Pittman & Fowler, 1998). If ASD symptoms are not resolved within 4 weeks, this traumatic response will become classified as a PTSD.

As was shown in the literature reviews, caring a THI victim has many broad effects of family burden and the family caregivers confronted with many sources of distress. The demands of care for each THI are based on THI victims' physical, cognitive, emotional, and behavioral disabilities. This new role of caregiving disturbs the family caregivers functioning, psychological well-being and health can cause social isolation, and disturbance to family relationships. As will be shown later, the family caregivers need many resources and supports to help them in their caregiving role. For example, informal and formal support.

Coping is a major mediator in the stress process which the family caregivers use to manage their stress event from THI. According to Lazarus and Folkman (1984), coping is defined as a process which the individual use effort to deal with the demands that they themselves appraise as stressful. There are two main coping strategies used by individuals. Firstly, problem-focused coping strategies are often directed to manage or alter the problem. Secondly, emotion-focused coping strategies lead to a change in the way an encounter is constructed without distorting reality or the stress event.

The outcome of THI may be death, full recovery or may have residual disabilities: both short-term and long-term. These disabilities can result in physical, cognitive, emotional, and behavioral impairment. The family caregivers coping strategies with the THI victims are influenced from their cognitive appraisal in each period while caring the victims. It is important to stress that this appraisal can vary the period of caregiving. The conceptual framework in the present study shows as Figure 2.

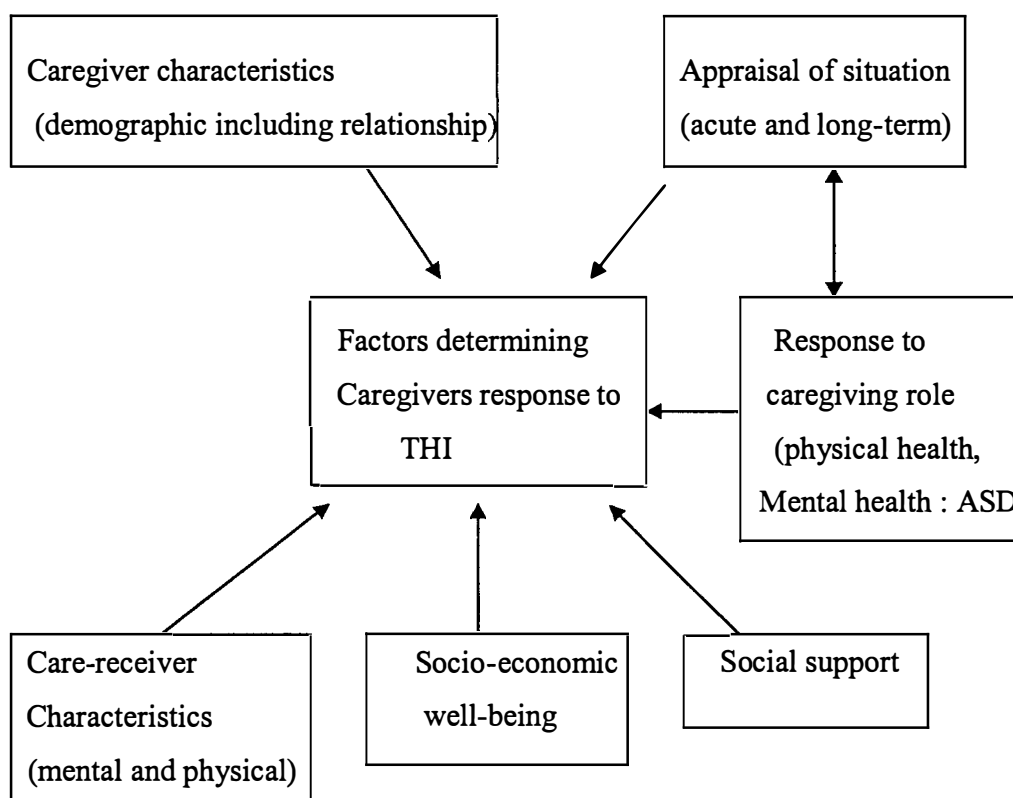


Figure 2: Conceptual framework in the present study

2.9 Conclusion

It can be seen that a THI can generate both closer relationships and fragmentation among family members (Orto & Power, 1994). The factors influencing this are family members' appraisals, family culture or beliefs and so on. The THI family caregivers experiences are different from other types of chronic illness, as THI family caregivers must contend with cognitive, emotional and personality changes (Brzuzy & Speziake, 1997). This is a complex phenomenon and an ongoing challenge for health and human care providers. Therefore, we have only revealed the tip of the iceberg from the literature review. There is a lack of research related to the acute impact of THI on primary family caregivers in a longitudinal study in Thailand. The results of this study will add specific knowledge related to the impact of THI on the primary family caregivers and their considerations in adjustment to THI events and outcomes. It poses

an important contribution to the knowledge of health care providers for its usefulness for planning effective interventions and helping primary family caregivers survive through this traumatic event.

CHAPTER III

Methodology

3.0 Introduction

This chapter will present an overview of the research methodology. The overall purpose of this study is to gain a greater understanding of the impact of THI in an individual on the primary family caregiver during the acute period using the Psychological General Well-Being Schedule (PGWBS), the General Functioning Scale (GFS) of the Family Assessment Device (FAD), and the Stanford Acute Stress Reaction Questionnaire (SASRQ). This section also presents the research design, justification for methodology, target population, research instrument, reliability and validity of instrument, data collection, data analysis, ethical considerations, and the limitation of the study.

3.1 Research Design

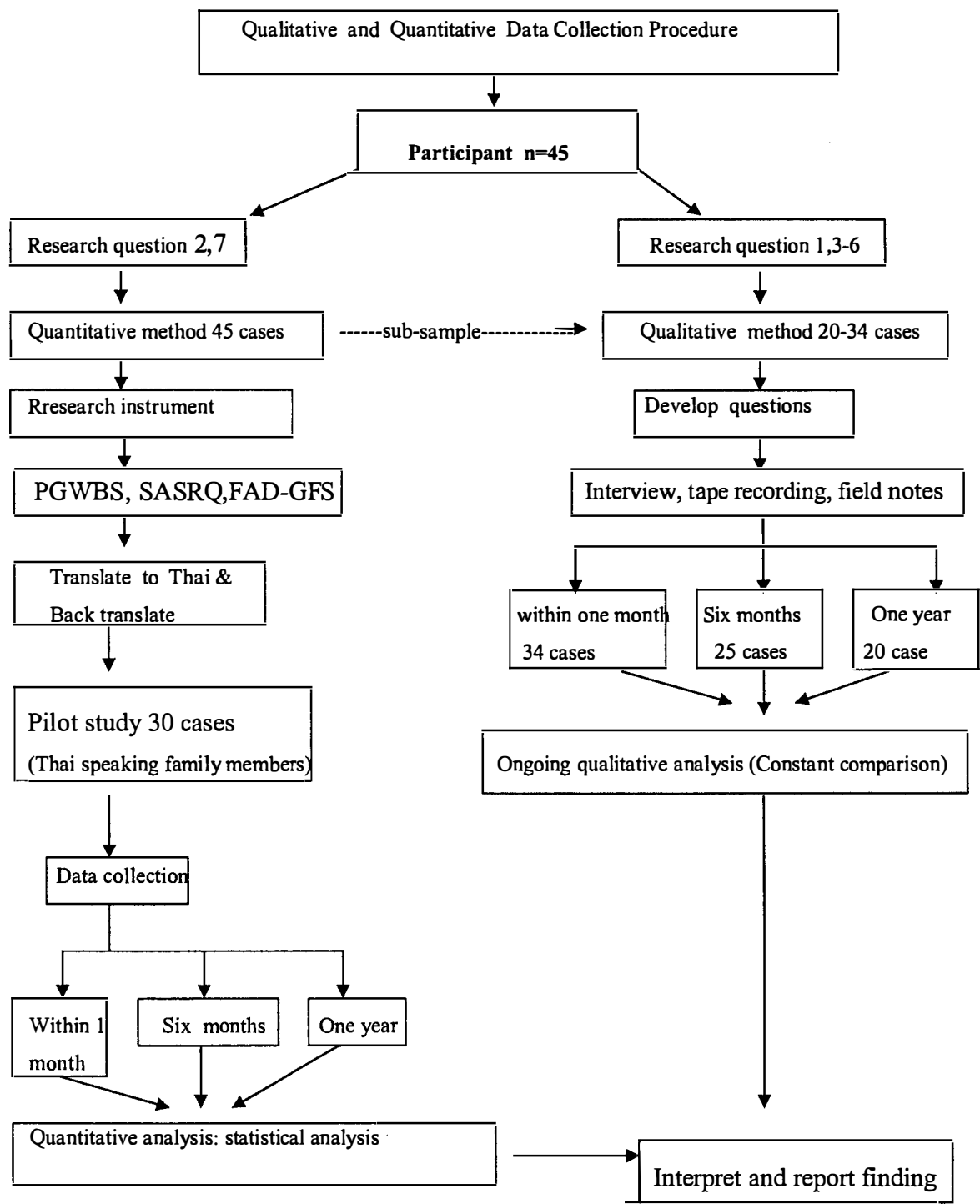
This longitudinal study uses both qualitative and quantitative methods. The qualitative data is based on in-depth interviews, observations and field notes, where possible the interviews have been tape-recorded. The interviews were conducted over three time periods: during the initial hospitalisation, six months, and one year later. Quantitative instruments were used to explore data from the Psychological General Well-Being Schedule (PGWBS), the General Functioning Scale of Family Assessment Device (FAD-GFS), and the Standford Acute Stress Reaction Questionnaire (SASRQ). Two of the first instruments mentioned were needed to provide an objective measurement of personal and family functioning during the first year and the SASRQ were used to assess family caregiver acute stress disorder in the immediate aftermath of the THI event.

The interviews with the THI family caregivers were conducted in three phases. The first phase interview was taken after victims' hospitalisation of two days and not more than

one month. The second and third interviews took place at six months and one year later. The rationale for the follow up at one year was twofold. Firstly, most longitudinal THI family caregivers showed that it is during the first year after injury that the family caregivers are confronted with painful experiences in their lives. Secondly, the appraisal administered by the family caregivers was a dynamic process, and the impact will be referred to their stress management and coping strategies.

Figure 3 is an outline of the source of data, the size of the research population, data collection timetable, and data analysis.

Figure 3: Data Collection and Analysis Procedure



3.2 Justification for Methodology

Previous primary THI family caregiver researches have mainly used quantitative methodologies, which were based on one or two time periods in each study. In this study, the research design used both qualitative and quantitative methods to explore primary family caregiver responses in three time periods. This mixed-methods approach were deemed necessary because quantitative methods alone cannot achieve the depth necessary to achieve the aims of the study. In this study, the quantitative method can help answer two research questions (number 2 and 7). While a qualitative method seems more appropriate for exploring the rest of the research questions that deal with human phenomena. This can help the researcher to explore some phenomena that cannot be measured by research instruments in the emic view (Streubert & Carpenter, 1995), and it can make possible the exploration of the dynamics of the reality. Moreover, it can help the researcher to gain a complete and holistic view of the results of the study (Duffy, 1987). From this frame of reference, combining qualitative and quantitative methods, it is appropriate to explore different aspects of the reality of the impact of moderate or severe THI on primary family caregivers. Strength from both quantitative and qualitative methods can provide different types of information (Goodwin & Goodwin, 1984). That means the results from this study will ultimately enrich the findings (Myers & Haase, 1989).

The justification for the longitudinal design is an acknowledgement of the changing needs of caregivers over time. Numerous caregiver studies have documented that the needs of caregivers and the care-receivers will change over time. Collin, Given, and Berry (1989) indicated that the results of using a longitudinal study may provide specific guidelines for nursing intervention. Similarly, Orto and Power (1994) concluded that the impact of THI on primary family caregivers called for more longitudinal research designs. This longitudinal design will also include objective measurements of well-being and functioning using the PGWBS (Dupuy, 1984 cited in Roberts, 1997) and the FAD-GFS (Epstein et al., 1983) and will measure family caregiver acute stress disorder using the SASRQ (Cardena et al., 2000).

In broad terms, the research design chosen for the study follows the approach of multiple case studies, as set out by Yin (1989). Multiple case studies are frequently used designs for exploratory, in-depth investigations. This design has a number of distinct advantages for meeting the objectives of the present study.

Firstly, case studies are the preferred strategy when exploratory questions are being posed or when focusing on some contemporary phenomena in a real life context (Yin 1989, p13). Secondly, the research design lends itself to incorporating multiple sources of evidence, including blending qualitative with quantitative sources. Thirdly, case studies allow the investigator to retain the holistic, real-life contextual characteristics of the event. Finally, the case study has the benefit of being adaptable to a range of data analysis strategies (Yin, 1989). Similarly, Stake (1994, p. 245) mentioned that "...case study can also be a disciplined force in public policy setting and reflection on human experiences".

In this study, the Glasgow Coma Scale (GCS) was used to assess the severity of the THI victim's head injury. The research included those THI victims whose severity was rated as either moderate or severe on the GCS. The study aimed to include approximately 100 THI victims. Wade et al., (1996) reported that moderate to severe head injury victims are at marked risk for ongoing neuropsychological, behavioral, and physiological problems. The GCS is the most widely used scale for classifying a patients' level of consciousness and severity in acute care settings. The GCS has three major components: eye opening response, verbal response, and motor response. However, a limitation of GCS is that it cannot be used to evaluate a long-term coma or prolonged recovery from severe THI (Hudak & Gallo, 1998). According to this research design, for this longitudinal study, the researcher selected 34 participants who reside in Phuket and Phang-Nga Provinces to interview. Firstly, the researcher assessed THI victims severity and disability by using the Ranchos Los Scale (RLA) (Greenberg, 1997). The RLA was used for evaluating victim perception and behavior. It is very helpful in clinical practice, because it provides a practical framework for assessment and nursing interventions (Hickey, 1997). This scale rates on an 8-point system (from 1 to 8). Higher scores indicate that a victim suffers less from his or her disability following

THI. This study will include THI primary family caregivers whose victim has an RLA score between 2 to 7.

3.3 Target Population and Inclusion Criteria

The study used a convenience sample of family members whose relatives had suffered a THI and had been admitted to the Vachira Phuket Hospital. The inclusion criteria used to select participants were as follows:

3.3.1 Inclusion Criteria of THI Victim:

- Diagnosis as moderate (GCS 9-12) to severe (GCS 3-8) THI within 2 weeks after THI
- RLA between 2 to 7
- At least 18 years of age
- No evidence of previous history of neurological or neuro-sensory impairment.

3.3.2 Inclusion Criteria of THI Family Member:

- The person who will be the main source of care for the THI victim in the community. The person who identifies him or herself as the primary caregiver would sign the consent form and become the focus the study. In the event that this primary caregiver changes, a new consent would be negotiated with this other person.
- Participant is able to speak and understand Thai
- Resident of Phuket Province or Phang-Nga Province
- Participant agreeable to take part in the study over a one-year period

3.4 Research Instruments

In this study, the researcher focused on three instruments for assessing participants psychological well-being, acute stress disorder and general functioning: the

Psychological General Well-Being Schedule, the Stanford Acute Stress Reaction Questionnaire, and the General Functioning Scale of the Family Assessment Device (See Appendix A)

3.4.1 Psychological General Well-Being Schedule (PGWBS)

The Psychological General Well-Being Schedule (PGWBS or GWBS) (Dupuy, 1984 cited in Roberts, 1997) is a 22 item self-administered questionnaire which was developed in the 1970s for the National Center for Health Statistics by Dr. Harold Dupuy. It measures subjective feelings of psychological well-being and distress, and it can reflect both positive and negative feelings. It consists of six dimensions: anxiety, depression, general health, positive well-being, self-control, and vitality. It rates on a 6-point scale. Each question is scored from 0-5. A low score represents more severe distress.

As well as providing sub-scales, Dupuy (1984 cited in McDowell & Newell, 1996) has also proposed three norms to categorise the PGWBS mean scores. The three norms proposed are positive well-being (mean range 73 to 110), moderate distress (mean range 61 to 72), and severe distress (mean range 0 to 60).

This instrument has been used in many studies. For example, Fazio (1977) concluded that "GWB should be useful in a variety of research and applied settings, such as a quality of life index, a mental health status appraisal, a measure of psychotherapy outcome evaluation, and a social indicator for measuring population changes in sense of well-being overtime' (p.13)". Casta et al., (1987) conducted longitudinal analyses of psychological well-being in a national sample of families of head injury survivors (Sonia, 1995), and dementia caregivers (Roberts, 1997). Test-retest reliability coefficients have been reported by many researches. The coefficients reported by these authors were between 0.68 and 0.98 (Edwards et al., 1978 cited in McDowell & Newell, 1996). Internal consistency was also high, ranging between 0.88 and 0.95 (Edwards et al., 1978 cited in McDowell & Newell, 1996).

Reported validity was between 0.65 and 0.90 (Ware et al., 1987 cited in McDowell & Newell, 1996). McDowell and Newell (1987) concluded of the PGWBS reliability coefficients:

“Because of its outstanding reliability and validity results, we recommend the General Well-Being Schedule be seriously considered where a general population indicator of subjective well-being is required” (p.56).

In this study, the PGWBS has three advantages. First, it can describe and compare the family’s general well-being following THI in each period. Second, it can reflect both the positive and negative feelings of the family. According to Adams (1996) “The THI family response to trauma involves both the potential for positive transformation as well as suffering and burden” (p.75). Third, it can reflect six dimensions that can represent family member psychological changes. Roberts (1997) asserted that the PGWBS is able to measure both positive and negative changes in well-being. This is important since several instruments for measuring psychological well-being only measure either negative or positive changes. Katsching (1997) claimed instruments for measuring well-being should discuss both positive and negative content.

3.4.2 The Stanford Acute Stress Reaction Questionnaire

The Stanford Acute Stress Reaction Questionnaire (SASRQ) was developed based on the DSM-IV criteria for Acute Stress Disorder by Cardendena and colleagues in 1996. As outlined above, an acute stress disorder is a cluster of psychological symptoms that can develop as an aftermath to psychological trauma. It can be used to assess acute stress within one month after peoples’ exposure to a traumatic event. Cardendena and colleagues used factor analysis to develop this questionnaire. The latest version has 30 items. This version includes items concerned with dissociation, re-experiencing of traumatic event, avoidance, anxiety and hyperarousal, and impairment in functioning. It can be scored on a Likert scale from no experience to very often experience. Each question is scored from 0 to 5. Therefore, a high score represents more acute stress

disorder. The SASRQ has demonstrated good reliability and so has been used by several researchers. Its reliability levels were estimated between .80 and .95 (Cardena et al., 2000, Daviss et al., 2000).

The instrument also demonstrates good construct, convergent, discriminant and predictive validity (Cardena et al., 2000). Moreover, Cardena et al. (2000) reports that the SASRQ is very useful as a general predictor of clinical outcomes in the aftermath of a traumatic event. The SASRQ takes approximately 5 minutes to complete.

3.4.3.General Functioning Scale of the Family Assessment Device

The General Functioning Scale (GFS) is a 12 item self-report instrument. It is a sub-component of the Family Assessment Device (FAD). The instrument was developed over thirty years ago at McGill University, Canada. It has been used in clinical work, in research, and in teaching (Epstein & Bishop, 1981). The FAD-GFS is based on a system, role, and communication theories. The developers of the FAD-GFS conceptualised the family as a complex “open system”. The FAD was designed to assess a number of dimensions of family functioning (Epstein, Baldwin, & Bishop, 1983). This scale assesses overall health/pathology, family distress and functioning. The FAD-GFS comprises six dimensions: problem solving, communication, roles, affective responsiveness, affective involvement, and behaviour control. Problem solving refers to the family’s ability to solve problems to a level that maintains effective family functioning. Communication refers to the exchange of information within a family. Roles refer to patterns of behaviours that fulfill family functioning. Affective responsiveness examines the family’s potential range of affective responses, both qualitatively and quantitatively. Affective involvement is concerned with the extent to which family members are interested in and place value on each other’s activities and concerned. Behavior control defines the pattern a family adopts for handling behavior in physically dangerous situations, situations that involve the meeting and expressing of psychological needs and drives. Behavior control also refers to situations involving interpersonal socializing behavior between family members and with people outside the

family (Epstein, Baldwin, & Bishop, 1983). Each question is scored from 1 (strongly agree) to 4 (strongly disagree). The higher the score, the more severe the family dysfunction.

The FAD-GFS comprises one item for problem solving, four for communication, two for roles, one for affective responses, three for affective involvement, and one for behavior control. It rates on a 4-point scale. Each question is scored from 1 (strongly agree) to 4 (strongly disagree), with higher scores indicating that the family presents more problems. Byles and colleagues (1988 cited in Kinsman, Wildman, Smucker, 1999, p.345) suggested "... a cut off score of ≥ 26 as a criterion for the presence of family distress".

The FAD-GFS has demonstrated good reliability ($\alpha=0.92$) (Epstein, Baldwin, & Bishop, 1983). According to Byles, Byrne, Boyle, and Offord (1988) the FAD-GFS studied in the Ontario Child Health field has a reliability of 0.71. Concurrent validity was assessed by administering the FAD-GFS with two other well-known self-report family assessment measures. The conclusion was that it had good evidence for concurrent validity. Miller, Bishop, Epstein, and Keitner's study (1990) reliability level were .83 to .86.

This scale has been used by several studies, including cross-cultural studies. The FAD-GFS has been widely used in THI research (Perlesz, Kinsella, & Crowe, 1999). Perlesz (1997) recommended that this instrument was valid and reliable in discriminating between good and poor family outcomes. In this study, the FAD-GFS has three advantages. Firstly, it can reflect overall family health following the THI. Secondly, it can assess family functioning after exposure to the THI. Thirdly, it can explore the main dimensions of family functioning that may be disturbed by the THI.

Furthermore, Epstein, Bishop, and Baldwin (1982) explained that the FAD-GFS could describe the full spectrum of family functioning: to understand the structure, organization and transactional pattern of the family. Because it was developed from a process of clinical and empirical testing, the FAD-GFS could be a useful measure of

family functioning when values of specific dimensions are not relevant (Byles, Byrne, Boyle, & Offord, 1988). In addition, Ridenour, Daley, and Reich (1999) suggested that using the FAD-GFS is the best of summary scores, because the FAD other subscales overlapped and could not assess unique dimensions. So the FAD-GFS is a good psychometric measurement for family functioning (Miller, Ryan, Keitner, Bishop, & Epstein, 2000). Moreover, it more specifically identifies family strengths and weaknesses (Sawin, Harrigan, & Woog, 1995).

No Thai versions of the PGWBS or FAD-GFS exist. Therefore they needed to be translated into the Thai language, because it is more appropriate for the researcher to use the language of the participants to obtain understanding. According to cross-cultural research, back translation is a speciality of the mapping of equivalent sets of sentences in one language onto a set in other language (Werner & Campbell, 1970). This can support research validity, which is the heart issue of interpreting the findings from cross-cultural research (Jones & Kay, 1992). So the researcher used the back-translation technique and concern herself with decentered translation. Firstly, the researcher translated all instruments from the English language to the Thai language. Secondly, the researcher sent all of the Thai version instruments to three bilingual translators for drafting back into English. Thirdly, three native English speakers compared this back-translation with the original and noted any discrepancies. Fourthly, the researcher then corrected the Thai version of the items that have a different meaning from the original. The items that were unsuccessfully translated are returned to the back-translator until the original and the Thai version have equivalent item meanings. Fifthly, all of the complete Thai version instruments were then examined independently by three bilingual nursing lecturers for a final check. Finally, each research instruments' reliability tested by Cronbach alpha coefficients for all scales in the 30 cases pilot study.

3.5 Data collection

Data collection is divided in three time periods described below. The length of interviews from 30 to 60 minutes in each time.

3.5.1 Period 1

During period 1, the researcher first visited each THI victim and their caregiver with the ward nurses from the participating hospital. The researcher introduced herself, explained the purposes and methods of the study, and arranged a convenient time for the caregivers to be visited and interviewed. The researcher selected a convenience sample of 45 family caregivers of THI victims presenting at the Vachira Phuket Hospital over a one-month period. All families agreeing to take part in the study completed the PGWBS, SASRQ and FAD-GFS, and offered demographic data such as age, education level, and the relationship with the THI victim. In addition, the researcher selected a sub-group of 34 participants according to the inclusion criteria outlined earlier and who felt comfortable and willing to continue to be interviewed after completing the three questionnaires and taking part in the in-depth interview. As indicated earlier, the in-depth interview is the main source of data. As Punch (1998) observes, the in-depth interview is one of the most powerful ways of exploring the experiences of participants (Punch, 1998). The researcher established a list of questions, which guided the interview and addressed the main research aims. If participants were willing, the interviews were tape recorded to facilitate more accurate transcription of the interview data.

3.5.2 Period 2

Period 2 was conducted after the initial contact six months. At this stage 11 family caregivers were excluded from the study, due to three of THI victims dying and eight that researcher could not contact. Before collecting data, the researcher made an appointment by telephone and visited the participants in their homes. Therefore of the original 45 family caregivers on 34 completed the follow-up questionnaires during period 2. Only 25 participants from period 1 were interviewed and assessed family caregivers' PGWBS and FAD-GFS. Each family caregiver was interviewed individually at his/her home by a researcher, using a semi-structured interview questionnaire guideline as well as informal observations of the participants their environment. For the remaining 9 participants who only completed the questionnaires at Time 1, the

researcher followed up by sending the research instruments by mail with a stamped and addressed envelope for the return of the questionnaires.

3.5.3 Period 3

Period 3 was conducted after the initial contact one-year later. The participants who were interviewed in period 2 were followed-up by another interview. This period had 20 cases taking part in the interviews, and the remaining 5 cases followed the same procedure as outline in period 2. The major focus of the follow-up interview was to explore the primary family caregiver response to the impact of any lingering disabilities from the THI family member. The focus of the quantitative instruments was to assess the caregiver's well-being and family functioning.

3.6 Data Analysis

The data analysis was based on the constant comparative method. It is the fundamental method of data analysis in grounded theory generation. That is, the ongoing process of collecting and analysing the interview data to inform subsequent interviews. The researcher checked new data with the old data and asked which of the new information added extra meaning (Angus, 1998). Hutchison (1988) viewed the constant comparative method, as the researcher "...compares incident with incident, incident with category, and finally, category with category or construct with construct. By this method the analyst distinguishes similarities and differences of incident" (p.122). Thus, Hutchison (1988, p. 135) suggested that "... comparative analysis forces the researcher to expand or tease out the emerging category by searching for its structure, temporality, cause, context, dimensions, consequences and its relationship to other categories".

For this study, a line-by-line analysis was performed to look for the key concepts. All interview data was transcribed verbatim, and coded. Comparing primary family caregiver reports to their response on the PGWBS, the SASRQ and the FAD-GFS enhanced qualitative analysis.

In all of the three periods in the interviewing process, the researcher used observational methods for collecting data. This type of data emerged during the analysis. In addition, this study applied methods of triangulation for merging qualitative and quantitative research methods. The rationale for such triangulation is to enhance the validity and confidence of the present study's results and provide an alternative perspective on the caregivers' experiences.

In quantitative questionnaires, quantitative data were analyzed by SPSS/PC for Windows. Frequency and percentages were presented participants and victims demographic data. The PGWBS, the SASRQ and the FAD-GFS will be presented by the mean and standard deviation and compared with the PGWBS and the FAD-GFS in three periods by using One-way repeated ANOVA statistical analyses.

3.7 Reliability and Validity of Qualitative Data

Reliability and validity are important issues for qualitative methods. In this study, qualitative method reliability and validity was guided by the criteria outlined by Yin (1994).

Construct validity is used to determine the ability of the research instrument to measure the study concepts (Robert & Burke, 1989). In this study, the strategy to improve construct validity was used of multiple sources of evidence: THI family interview, the PGWBS, and the FAD-GFS. Combining sources of both qualitative data and quantitative data is called simultaneous triangulation. Morse (1991) and Grbich (1999) described simultaneous triangulation as involving answering the qualitative and quantitative questions at the same time.

Internal validity establishes causal relationships or opportunities for exploratory study. Guba and Lincoln (1983) defined internal validity as the same as truth-value. "It depends on the degree of isomorphism between the study data and the phenomena to which they relate" (pp.104-105). So this study will be based on pattern matching. This pattern is based on comparing the finding from case to case (Yin, 1994).

External validity deals with the generalibility of the finding. The strategy is based on multiple responses from THI primary family caregivers in a longitudinal design. Collecting data in each period provides a more in-depth understanding of the THI primary family caregivers responses to the acute impacts on them from THI.

Reliability is addressed on the operations of study that can be repeated, and they have the same findings and conclusions. In the present study the research will analyse the data from the interview, audio recordings, field notes, and a list of interview questions during collecting data.

In addition, this study acquired multiple sources of data (interviews, observations, field note, taped data) and different times for follow-ups are used to support completeness and convergence of data. Multiple sources of data collected over time will be considered to provide triangulation of data as well as demonstrate consistencies in the findings. Taped data was transcribed in Thai by the researcher. Then the researcher translated this into English and verified the transcripts for linguistic equivalency with a bilingual professor.

3.8 Pilot Study

The purpose of the pilot study was to obtain information for assessing the applicability and reliability of the research instruments: the PGWBS, the FAD-GFS, and the SASRQ. All of them were developed in Western culture. In the present study, the researcher translated all of them into a Thai version. Because these tests have never been translated and used to study Thai culture, a pilot study was conducted after professionals approved all instruments.

The criteria for inclusion of participants for the pilot study were that the family caregivers were: (a) the main source of care for a THI victim in hospitalisation and (b) a resident of Phuket and Phang-Nga province. Those family caregivers who met the

criteria and agreed to participate in this study were given an explanation of the research along with a set of questionnaires to complete.

A total of thirty THI family caregivers agreed to participate. The completed questionnaires were evaluated for the length of time needed to fill out a set of questionnaires, any questionnaire items that were unclear, the clarity of instructions, and each instruments' reliability. The results from the pilot study showed that:

1. The length of time needed to fill out a set of questionnaires ranged from 20 to 30 minutes.
2. There were no disearnable problems with the questionnaire items and instructions.
3. Each research instruments' reliability tested by Cronbach's alphas indicated as follows:
 - 3.1 The PGWBS coefficient was 0.91
 - 3.2 The SASRQ coefficient was 0.85
 - 3.3 The FAD-GFS coefficient was 0.84

Moreover, in the present study, the reliability of each research instruments as tested by Cronbach's alphas indicated as follow:

- The PGWBS coefficients at three times were 0.87, 0.91, and 0.94 respectively.
- The FAD-GFS coefficients at three times were 0.75, 0.86, and 0.87 respectively.
- The SASRQ coefficient was 0.94

It can be seen that all of the translated instruments in the present study met the standards of reliability. Nunnally (1978) suggested that a satisfactory level of reliability in the early stages of research on predictor test at 0.70 or higher would suffice.

3.9 Cross-Cultural Research Translation

The informants in the present study were all non-English speakers, thus is more appropriate for the researcher to use the native Thai language of the participants to understand the impact of THI in the family caregivers. Thus, the translation played a great role in the PGWBS; the FAD-GFS; and the SASRQ, structure interview guidelines, and data analyses.

All of the quantitative instruments used in the present study were developed in Western cultures. Jones (1986) suggested that the use of quantitative measures in cross-cultural research require translation of the instrument into a second language. Thus, the issues of the equivalence between the primary and secondary language is very important for the validity of the study (Change et al., 1999). The most common use and recommended procedure for equal familiarity and colloquialness in both languages is back translation. In this procedure, the instruments are changed into the target language by one translator and that version is translated back into the source language by a different translator (Brislin, 1970; Chapman & Carter, 1979 cited in Jones, 1986). In addition, Brislin (1972 cited in Brislin et al., 1973) recommended the technique for the back translator as:

Original, to target, to target rewrite, to original

As the result of this, in the present study, all of the instruments were based on back translation and forward translation. To prepare the Thai version of instruments, firstly the researcher performed on the first draft translation from the original language (English) to the Thai language. Secondly, the researcher sent the translation to three nursing professionals who were bilingual to compare the meanings between the original and the Thai versions. Thirdly, another three bilinguals individuals were employed one who was a graduate English lecturer, one Thai doctoral nursing student studying in the United States, and one Thai person who uses English as his first language, to translate from the Thai version back to the English version. Fourthly, nursing professionals who have English as a first language and were specialists in using the instruments in their

research, or owners of original instruments, compared the equivalence in meaning between the two English versions. In this point, the researcher tried to reduce pitfalls in translation such as lack of concept equivalence and lack of semantic equivalence. Kristjansson, Desrocher, and Zumbo (2003) recommended that the researcher should be concerned about two types of pitfalls in cross-linguistic and cross-cultural measurements. Fifthly, if the two English versions of the items had different meanings, the researcher would repeat steps one to four again until all of the items have equivalent meanings. Lastly, the researcher administered both original versions and the last Thai version to bilingual nursing professionals to evaluate the cross-cultural translation.

As this study was conducted within the Thai cultural context, the differences between the English and the Thai language should be important, especially in qualitative data analysis. Twinn (1997) noted that the validity and reliability of qualitative research with non-English speaking informants was based on accurate translation. Moreover, having only one translator working with data to maximize reliability of the data sets was an important issue. Therefore, the finding of the present study was analysed and translated from the Thai to the English language by the researcher.

Taped data was transcribed in Thai by the researcher. Translation to English occurred at the level of categories. During data analysis, some categories and subcategories were re-named for better understanding with the English language. However, the researcher still kept within the Thai meaning of the narrative and the equivalent meaning with both languages, consulting when necessary with a Thai doctoral nursing professional who finished her education in the United States.

3.10 Ethical Considerations

The main study was conducted with the approval by Edith Cowan University Human Research Ethic Committee before data collection begins to assure the privacy of the human subjects. The researcher contacted the Vachira Phuket Hospital Director to inform him about the study and criteria for participant selection. With the Director's

approval, the researcher met and described the study to the head nurses of all traumatic wards. The head nurses and the researcher then discussed the criteria of case selection with the registered nurses in each ward. They provided a list of eligible THI family caregivers and identified THI victims' health status. After that, participants have given an information letter detailing the purpose, and nature of the study and their rights as research participants. The researcher described what issues have come up, and how the participants have informed and that they could withdraw from the participant's role at any period of the study. The researcher followed up the initial survey one day later. The participants who agreed to participate in this study signed a consent form. Confidentiality and identification of the participants have maintained. All participants were treated with respect and in a non-judgmental manner. Telephone numbers were included to provide ongoing opportunities for participants to ask questions. Consent was affirmed verbally at each follow-up interview. Participants answered the PGWBS, the SASRQ and the FAD-GFS first and then the researcher conducted the interview at a later date. If participants felt upset during the interview, the researcher stopped the interview, and gave some psychological support. The rest of the interview resumed later in the day. The researcher organized a system for participants who became upset during collecting data. Currently, the researcher is training for a counseling role. In addition, the researcher set up a collaborative working system with the hospital counselors. These counselors were informed of interview questions. This service is provided free of charge. The researcher identified the person with pseudonyms in all transcribed data collection and reported results as group data. Data collection interviews were conducted in a private area. The permission to tape record and record interview data was requested prior to the interview.

3.11 Confidentiality and Security of the Data

Because of the sensitivity of the research data in the study, the issues of confidentiality was treated with particular importance. The data that identified the participants was kept in a master-list to facilitate follow-up at six months and one year later. This list was kept separate and all tapes were labeled by code numbers. The data collection forms

were stored separately from the master-list of the participant's code numbers. The tape recordings will be kept for five years in a locked area. Participants were assured that data would only be available to the researcher and her thesis advisor.

3.12 The Limitations of the Study

This study has four limitations imposed by the research design. The first limitation is that the present study will be concerned with in-depth and face-to-face interviews of the THI primary family caregivers. The perspectives of one family member may not reflect those of by others. Quantitative data in large groups is used for supporting and following the primary family caregivers' psychological general well-being, family general functioning and family acute stress disorder as an overview.

The second limitation is the generalisation of the research findings. Because this study takes place in Phuket and Phang-Nga province, there are discrepancies between the economic status and cultures between provinces.

The third limitation is research-finding validation. To reduce this potential bias, the present study uses multiple strategies, including in-depth interviews, data from tape recordings, and field notes, providly checks on potential threats to reliability and validity. In all research methods, both qualitative and quantitative, the researcher employs triangulation to reduce sources of bias. According to Fielding and Fielding (1986) "...the important feature of triangulation is not the simple combination of different kinds of data, but the attempt to relate them so as to counteract the threats to validity identified in each (p. 31)". Moreover, triangulation of multiple data sources is essential for obtaining a complete view of the acute impact on the THI primary family caregivers.

The final research limitation is related to the self-selection bias of participants. Selective sampling is a frequently used sampling method in qualitative analysis. However, this

type of sampling has a risk for bias. To reduce this bias, the demographic characteristic data of participants will be gathered from the THI family caregivers to allow comparison with similar non-participants.

3.13 Conclusion

The objective of this study is to gain a greater understanding of the impact of THI in an individual and their family during the acute phase and first year period. The research questions require the use of both qualitative and quantitative methods to explore the complicated phenomenon during this period. Results from the study can enhance the expertise of emergency nurses, trauma nurses, rehabilitation and community services and may be used to plan and deliver more appropriate interventions and holistic care.

Chapter IV now presents the results of the demographic data derived from THI victims and their family caregivers. The chapter concludes with the findings on the Psychological General Well-Being Schedule, the General Functioning Scale compared over three time periods and family caregivers levels of Acute Stress Disorder. Chapter V to presents the qualitative findings from Time 1 to Time 3 respectively.

CHAPTER IV

Quantitative Findings

4.0 Introduction

This Chapter is divided into two parts. The first part presents the demographic data for the THI victims and their primary caregivers. In addition, this part of the Chapter outlines the findings from the General Functioning Scale of the Family Assessment Device (FAD-GFS), the Stanford Acute Stress Reaction Questionnaire (SASRQ) and the Psychological General Well-Being Schedule (PGWBS). As was outlined in Chapter III, these measures were included to assess the level of family health and psychological well-being at each point along the caregiving continuum. In particular, the SASRQ was used to explore the possible psychological symptoms of acute stress disorder (ASD) in family caregivers as a possible aftermath of facing the trauma of their relatives' head injuries. The FAD-GFS was used to assess family outcome and other dimensions of family functioning.

The second part of the Chapter discusses the implications of the findings outlined above. This discussion will compare the findings from the present study, with those reported elsewhere. This section will also discuss the implications of the findings for nurses in terms of managing and supporting family caregivers of THI victims.

Before presenting the quantitative findings, a caveat is necessary. Due to the mixed methods research design and the small, non-random nature of the research population, caution should be exercised when interpreting the statistical findings outlined below.

4.1 Demographic Characteristic of the THI Victims

Of the 45 THI victims 35 (77.8%) were male and 10(22.2%) were female. The mean age of the victims was 34.44 years (SD=15.83, Range 18 to 72). The major cause of THI was motorcycle accident, comprising 40(88.9%) of the total THI sample.

Each THI victim’s severity was assessed using two instruments, the Glasgow Coma Scale and the Ranchos Los Amigos Scale. Using the norms established for the Glasgow Coma Scale, the findings showed that 19 cases were classified as having suffered from “severe” head injuries and 26 cases were labeled as “moderate” head injuries. Each victim’s acute level of disability was assessed using the Ranchos Los Amigos Scale (RLAS). The majority of THI victims (31.1%) had the RLAS scores at level III. This means the victims displayed localised or focused responses to stimuli, such as withdrawing from pain; turning toward sounds; and following moving objects that pass within the visual field; pulling away from the same as withdrawing from pain, and were able to follow simple commands but in an inconsistently and delayed manner. Table 1 summarises the above findings.

Table 1
The Demographic Characteristics and THI Severity Measures of THI Victims

Variables	Frequency	Percent	M	SD	Range
<u>Gender</u>					
Male	35	77.8			
Female	10	22.2			
Age			34.4	15.8	18-72
<u>Cause of THI</u>					
Motorcycle	40	88.9			
Fall	4	8.9			
Assault	1	2.2			

Table 1(Cont.)
The Demographic Characteristics and THI Severity Measures of THI Victims

Variables	Frequency	Percent	M	SD	Range
<u>Severity</u>					
Moderate	26	57.8			
Severe	19	42.2			
<u>RLAS</u>					
II	6	13.3			
III	14	31.1			
IV	6	13.3			
V	6	13.3			
VI	9	20.0			
VII	4	8.9			

4.2 Demographic Characteristic of Caregivers

The 45 caregivers meeting the inclusion criteria and agreeing to participate in the study comprised 41 (91.1%) female and 4 (8.9%) male candidates. Most (77%) were Buddhist. Most were married. The majorities were mothers and wives of the THI victims respectively. Just under half (48.9%) of the carers were employed. The mean age of the family caregivers was 42.27 years (SD = 11.22, Range 21 to 72). The caregivers’ years of education ranged from 0 to 17, with a mean of 6.58 years (SD= 4.12). A summary of the demographic variables for the caregivers is outlined in Table 2.

Table 2
The Demographic Characteristics of the Primary Caregivers

Variables	Frequency	Percent
<u>Gender</u>		
Female	41	91.1
Male	4	8.9
<u>Relationship</u>		
Mother	14	31.2
Wife	13	28.9
Elder sister	5	11.1
Younger sister	4	8.9
Daughter	3	6.7
Father	2	4.4
Elder brother	1	2.2
Aunt	1	2.2
Husband	2	4.4
<u>Religion</u>		
Buddhist	35	77.8
Muslim	10	22.2
<u>Occupation</u>		
Employee	22	48.9
House wife	11	24.4
Shop owner	6	13.3
Farmer	5	11.1
Unemployed	1	2.2

Table 2 (Cont.)
The Demographic Characteristics of the Primary Caregivers

Variables	Frequency	Percent	M	SD	Range
<u>Marital Status</u>					
Married	34	75.6			
Single	7	15.6			
Divorced	4	8.9			
Age			42.27	11.22	21-72
Years of formal education			6.58	4.12	0-17

Six months after the initial data collection, the number of caregivers had declined to 34 participants. Eleven family caregivers were excluded from Time 2 of the study, due to three of the THI victims dying during the follow-up period and eight that could not be contacted. By the end of Time 3, the number of family caregivers had declined to 25. Again, this was due to one THI victim dying, and another had no residual disability. Hence, the researcher excluded them from the present study.

4.3 The General Functioning Scale of the Family Assessment Device Scores (FAD-GFS)

In addition to collecting demographic data, the study also assessed family functioning using the general functioning component of the Family Assessment Device. Epstein, Bishop and Balldwin (1982) recommend that the FAD-GFS could be used to assess several aspects of family functioning such as the structure, organisation and transactional patterns within a family. Moreover, the FAD-GFS can also assess family strengths and weaknesses (Sawin, Harrigan, & Woog, 1995).

Zarski et al. (1988) recommended that family functioning must be considered as an important factor in the THI victims’ recovery processes. According to the present study, the researcher measured family functioning at three distinct time periods; the time of the initial head injury, six months into recovery and at one year after the injury.

Table 3 summarises the findings from the General Functioning Scale (FAD-GFS) of the Family Assessment Device data from the Time 1, Time 2, and Time 3 studies.

Table 3
The FAD-GFS Scores’ Time 1(n=45), Time 2(n=34), and Time 3(n=25) Means

FAD-GFS	Possible Range	Actual Range	M	SD
Time 1	12-48	15-36	23.08	5.17
Time 2	12-48	12-33	22.18	5.48
Time 3	12-49	14-35	23.80	4.93

A high score on the FAD-GFS scale indicates a more severe level of family dysfunction. This can be seen in Table 3, where the scores of FAD-GFS were nearly the same across the three assessment times. The results suggest that the family caregivers were still dealing with high levels of family dysfunction. In addition, when comparing the figes differences in the three times using a One-way repeated ANOVA procedure, the result showed that there were no statistically significant differences over any of the time periods. These findings are presented in Table 4.

Table 4
Comparisons of The FAD-GFS Scores' Time 1, Time 2, and Time 3 Means by
One-way Repeated ANOVA

Source of variance	df	SS	MS	F
Between groups	2	42.57	21.29	.45 ^{ns}
Within groups	101	2684.19	26.58	
Total	103	2726.76		

^{ns} p > .05

In addition, the researcher used a One-way repeated ANOVA to test for differences in the means of the FAD-GFS of the remaining 25 family caregivers present in Time 3. The result was the same as Table 4. This finding was presented as Table 5.

Table 5
Comparisons of the FAD-GFS Scores Time 1, Time 2, and Time 3 Means by
One-way repeated ANOVA in the Remaining 25 Family Caregivers

Source of variance	df	SS	MS	F
Between groups	2	52.56	26.28	1.00 ^{ns}
Within groups	72	1890.56	26.26	
Total	74	1943.12		

^{ns} p > .05

4.4 The Stanford Acute Stress Reaction Questionnaire (SASRQ)

Using the Stanford Acute Stress Reaction Questionnaire (SASRQ) the study sought to assess the possible existence of acute stress disorder (ASD) in family caregivers following their relative’s head injury. As previously outlined, an ASD is a cluster of psychological symptoms that can appear within 30 days after exposure to an acutely traumatic event. In the present context, this refers to the caregiver’s exposure to their relative’s moderate or severe head injury. A high score on the SASRQ suggests a person may be at risk of experiencing an ASD. The results suggest that the moderate or severe THI family caregivers were likely to be at risk of developing an acute stress disorder after exposures to the traumatic event affecting their family member. The mean score was 76.53 (SD=31.85). In all sub-scales, the SASRQ showed that THI family caregivers had the maximum score in the actual range, very close to the full score of the possible range. These findings are outlined in Table 6.

Table 6
The SASRQ Scores (n=45)

SASRQ sub-scales	Number of Items	Possible range	Actual range	M	SD
Dissociative symptoms	10	0-50	2-41	22.20	11.68
Reexperiencing of trauma	6	0-30	0-28	15.18	7.72
Avoidance	6	0-30	0-29	17.56	7.31
Anxiety& Hyperarousal	6	0-30	0-28	18.00	6.72
Impairment in Functioning	2	0-10	0-9	4.00	2.73
SASRQ	30	0-150	22-124	76.53	31.85

The SASRQ can also be scored dichotomously for the presence or absence of the ASD symptoms (Cardene et al., 2000). The present study showed that 35 cases (77.78%) of THI family caregivers had the symptoms of ASD. The study determined that THI family caregivers exhibited at least three of the dissociaive symptoms, plus at least one symptom of re-experiencing trauma, avoidance, and marked anxiety or increased arousal. Specifically, the result showed that the moderate THI family caregivers presented ASD symptoms in 20 out of 26 cases (76.92%),and the severe THI family caregivers demonstrated ASD symptoms in 15 out of 19 cases (78.95%). Thus, this study suggests that both moderate and severe THI family caregivers responded with ASD symptomatology after they were confronted with THI event.

In addition, the researcher analysed more details of the family caregivers’ demographic characteristics in the groups, which were prone to ASD. The results are outlined in Table 7.

Table 7
The Demographic Characteristics of the Groups of the Family Caregivers
Who Prone ASD (n=35)

Variable	Frequency	Percent
<u>Gender</u>		
Female	31	88.57
Male	4	11.43
<u>Relationship</u>		
Mother	12	34.28
Wife	12	34.28
Younger sister	3	8.58
Older sister	2	5.71
Father	2	5.71
Husband	1	2.86

Table 7 (Cont.)
The Demographic Characteristics of the Groups of the Family Caregivers
Who Prone ASD (n=35)

Variable	Frequency	Percent
<u>Relationship</u>		
Daughter	1	2.86
Older brother	1	2.86
Aunt	1	2.86
<u>Occupation</u>		
Employee	17	48.57
House wife	8	22.86
Farmer	5	14.29
Shop owner	4	11.43
Unemployed	1	2.85
<u>Marital Status</u>		
Married	29	82.26
Single	3	8.57
Divorce	4	8.57

Table 7 shows that females are more prone to ASD more than males. The majority were mother and wives, each representing equal proportions. Most were married. Most of them were employees (48.57%).

4.5 The Psychological General Well-Being Schedule (PGWBS) Score

The Psychological General Well-being Schedule (PGWBS) measures subjective psychological well-being and distress in THI family caregivers. It covers both positive and negative feelings of the family caregivers while they faced with the trauma event of the THI. In present study, the researcher used the PGWBS to assess THI family

caregivers’ psychological well-being along the continuos change in the family caregivers. The results are presented as below following.

4.5.1 The PGWBS scores from the Time 1 Assessment

A low score on the Psychological General Well-Being Schedule represents an expression of a high negative sense of well-being. Table 5 below shows the Time 1 mean score of PGWBS was 57.64. The sub-scale shows that caregivers had lower scores in all sub-scales. In the present study, the researcher used the PGWBS to assess THI family caregivers’ psychological well-being over in three time periods. The results show the continuous changes in the family caregivers. Table 8 shows the sub-scale results derived from the PGWBS survey at Time 1.

Table 8
The PGWBS Sub-scales Results in Time 1(n=45)

PGWBS Sub-scales	Number of Items	Possible Range	Acutal Range	M	SD
Anxiety	5	0-25	3-21	11.44	4.89
Depression	3	0-15	2-15	9.24	3.57
Positive well-being	4	0-20	0-16	7.67	3.64
Self control	3	0-15	4-15	10.00	2.59
General health	3	0-15	4-15	9.89	3.45
Vitality	4	0-20	0-16	9.40	3.28
PGWBS	22	0-110	21-89	57.64	15.56

As well as providng sub-scales, Dupuy (cited in McDowell & Newell, 1996) has also proposed three norms to categorise the PGWBS means. The three norms proposed by

Dupuy are Positive Well-Being, Moderate Distress, and Severe Distress. The caregivers distribution across these norms are shown in Table 9.

Table 9
The Distribution of the Time 1 PGWBS Norms

Norm	Mean Range	Frequency	Percentage
Positive well-being	73-100	7	15.56
Moderate distress	61-72	15	33.33
Severe distress	0-60	23	51.11
Total	0-110	45	100

From Table 9, it can be seen that most (51%) of the caregivers were identified as experiencing severe distress during the Time 1 assessment.

4.5.2 The PGWBS scores from the Time 2 Assessment

After six months, the mean score of the Psychological General Well-Being Schedule score was 66.18 (SD = 16.78). This score is higher than the finding from Time 1. However, it still has a lower (worse) score when compared with the two studies conducted on a normal population in the United State (mean = 82.1 and 80.3).

Table 10 shows the sub-scale results from the PGWBS survey at Time 2.

Table 10
The PGWBS Sub-scales Results in Time 2 (n=34)

PGWBS Sub-scales	Number of Items	Possible Range	Actual Range	M	SD
Anxiety	5	0-25	6-25	15.09	5.23
Depression	3	0-15	2-15	10.53	3.25
Positive well-being	4	0-20	2-14	9.15	2.79
Self control	3	0-15	4-14	9.76	2.88
General health	3	0-15	3-15	9.32	3.37
Vitality	4	0-20	4-18	12.26	3.27
PGWBS	22	0-110	30-92	66.18	16.78

It can be seen from Table 10 that an expression of the THI family caregivers' psychological general health, in all of sub-scales showed significant decrease in general well-being. The findings indicated that the family caregivers had lower scores in self-control and general health than those recorded in the Time 1 findings. According to the analysis of the distribution of the PGWBS three norm for the Time 2 findings, the scores are shown in Table 11.

Table 11
The Distribution of the Time 2 PGWBS Norms

Norm	Mean Range	Frequency	Percentage
Positive well-being	73-100	14	41.18
Moderate distress	61-72	7	20.58
Severe distress	0-60	13	38.24
Total	0-110	34	100

From Table 11, family caregivers psychological general well-being is better than Time 1, as 41.8% of the family caregivers norm failed to reach positive well-being. However, it can be seen that 38% of the family caregivers were identified as still experiencing severe distress during the Time 2 assessment compared with 51 % during the Time 1. That is, approximately 13% of caregivers had shown an improvement in their levels of severe distress.

4.5.3 The PGWBS Scores from the Time 3 Assessment

After one year, the family caregivers psychological well-being was higher than the previous two times. The findings indicated an overall improvement in general well-being when comparing the Time 1 and Time 2 scores. The mean score of the PGWBS during Time 3 was 74.76 (SD = 17.12).

Table 12 shows the sub-scale results described from the PGWBS survey at Time 3.

Table 12
The PGWBS Sub-scales Results in Time 3 (n=25)

PGWBS Sub-scales	Number of Items	Possible Range	Acutal Range	M	SD
Anxiety	5	0-25	6-24	17.84	5.39
Depression	3	0-15	3-15	11.44	3.18
Positive well-being	4	0-20	6-16	11.352	3.03
Self control	3	0-15	5-14	10.56	2.43
General health	3	0-15	2-15	10.20	3.32
Vitality	4	0-20	7-18	13.32	3.03
PGWBS	22	0-110	38-99	74.76	17.12

It can be seen from Table 11 that with the exception of the family caregivers' psychological well-being, all of the sub-scales show an improvement in positive well-being.

In addition, the analysis of the distribution of the PGWBS three norms from Table 13 showed that during the time 3, most (72%) of the family caregivers the perception failed into the category of positive well-being

Table 13
The Distribution of the Time 3 PGWBS Norms

Norm	Mean Range	Frequency	Percentage
Positive well-being	73-100	18	72.00
Moderate distress	61-72	2	8.00
Severe distress	0-60	5	20.00
Total	0-110	25	100

A One-way repeated ANOVA was used to test for differences between the means of family caregivers' psychological general well-being in three times, the results showed that the means of the PGWBS in Time 3 were statistically significant with a difference at the 0.01 level of significance. The findings are outlined in Table 14 and 15.

Table 14
Comparison of the PGWBS Time 1, 2, and 3 Means
by a One-way Repeated ANOVA

Source of variance	df	SS	MS	F
Between groups	2	4841.95	2420.97	9.06**
Within groups	101	26979.81	267.13	
Total	103	31821.76		

**p < .01

Table 15
Test of the PGWBS Time 1, 2, and 3 Means Difference by LSD

Time		Time 1	Time 2	Time 3
	M	57.46	66.18	74.76
Time 1	57.46	-	-8.53*	-17.12*
Time 2	66.18			-8.58*
Time 3	74.76			-

* p < .05

Moreover, the researcher analysed the PGWBS sub-scale in three times. The results showed that there were three sub-scales showing no statistically significant differences. These sub-scales were positive well-being, self-control and general health. In contrast, the two sub-scales showing the greatest improvements were anxiety, and vitality. The findings are presented in Table 16 and Table 17.

Table 16
Comparison of the PGWBS Sub-scales' Time 1, 2, and 3 Means
by One-way Repeated ANOVA

Source of variance	df	SS	MS	F
Anxiety				
Between groups	2	699.68	349.84	13.37**
Within groups	101	2643.21	26.17	
Total	103	3342.89		
Depression				
Between groups	2	83.21	41.61	3.65*
Within groups	101	1150.94	11.40	
Total	103	1234.15		
Positive well-being				
Between groups	2	33877.11	16938.56	1.04 ^{ns}
Within groups	101	1646170.3	16298.72	
Total	103	1680047.4		
Self-control				
Between groups	2	9.38	4.69	0.67 ^{ns}
Within groups	101	712.28	7.05	
Total	103	721.65		
General health				
Between groups	2	12.03	6.01	0.52 ^{ns}
Within groups	101	1161.89	11.50	
Total	103	1173.91		
Vitality				
Between groups	2	296.06	148.03	14.28**
Within groups	101	1046.86	10.37	
Total	103	1342.91		

^{ns} p > .05

* p < .05

** p < .01

Table 17
Test of the PGWBS Sub-scales' Time 1, 2, and 3 Means Difference by LSD

Time	M	Time 1	Time 2	Time 3
Anxiety				
Time 1	11.44	-	-3.64*	-6.40*
Time 2	15.09			-2.75*
Time 3	17.84			-
Depression				
Time 1	9.24	-	-1.29	-2.20*
Time 2	10.53			-.91
Time 3	11.44			-
Vitality				
Time 1	9.40	-	-2.86*	-3.92*
Time 2	12.26			-1.06*
Time 3	13.32			-

^{ns} p > .05 * p < .05

Time 1, 2, and 3 scores on the PGWBS findings showed that THI family caregivers had poor general well-being during the first year to dealing with THI victims compared with normal population scores. At each time interval improvement was evident. However, the scores were consistently lower than a comparable normal population as reported in the RAND study. These results are presented in Table 18.

Table 18
The PGWB Sub-scales Scores 3 Times Compared with the RAND-Report Study

Sub-scales	Time 1 Mean	Time 2 Mean	Time 3 Mean	RAND Mean
Anxiety	11.44	15.08	17.88	17.8
Depression	9.24	10.59	11.44	12.3
Positive Well-being	7.67	9.15	11.36	13.1
Self-control	10.00	9.76	10.56	13.0
General health	9.89	9.32	10.20	12.1
Vitality	9.40	11.85	13.32	13.5
PGWBS Index	57.64	66.18	74.76	82.1

Table 18 shows that the THI family caregivers had lower (worse) scores across all sub-scales when compare with the normal population that was studied by the RAND. The differences were greater on self-control and general health.

In addition, the researcher used a One-way repeated ANOVA to test for differences between the means of the PGWBS of the 25 family caregivers remaining in Time 3. This finding is presented as Table 19. Table 19 shows the score on the PGWBS for the 25 family caregivers was generally the same as the score shown in Table 14.

Table 19
Comparison of the PGWBS Time 1, 2, and 3 Means
by One-way Repeated ANOVA in the Remaining 25 Family Caregivers

Source of variance	df	SS	MS	F
Between groups	2	4092.19	2046.09	7.50**
Within groups	72	19634.00	272.69	
Total	74	23726.19		

** p < .01

Table 20
Test of the PGWBS Time 1, 2, and 3 Means Difference by LSD
in the Remaining 25 Family Caregivers

Time		Time 1	Time 2	Time 3
	M	56.80	67.68	74.76
Time 1	56.80	-	-10.88*	-17.96*
Time 2	67.68			-7.08
Time 3	74.76			-

* p < .05

The researcher analysed the PGWBS sub-scale in three times. The results showed that the two sub-scales showing no statistically significant differences were self-control and general health. In contrast, the three sub-scales showing the greatest improvements were anxiety, positive well-being, and vitality. The findings are presented in Table 21 and Table 22.

Table 21
Comparison of the PGWBS Sub-scales' Time 1, 2, and 3 Means
by One-way Repeated ANOVA in the Remaining 25 Family Caregivers

Source of variance	df	SS	MS	F
Anxiety				
Between groups	2	639.68	319.84	12.09**
Within groups	72	1905.04	26.46	
Total	74	2544.72		
Depression				
Between groups	2	87.55	43.77	4.26*
Within groups	72	740.64	10.29	
Total	74	828.19		
Positive well-being				
Between groups	2	200.67	100.33	10.52**
Within groups	72	686.88	9.54	
Total	74	887.55		
Self-control				
Between groups	2	6.08	3.04	0.45 ^{ns}
Within groups	101	712.28	7.05	
Total	103	721.65		
General health				
Between groups	2	2.48	1.24	0.10 ^{ns}
Within groups	72	897.20	12.46	
Total	74	899.68		
Vitality				
Between groups	2	239.55	119.77	12.30**
Within groups	72	701.04	9.74	
Total	74			

^{ns} p > .05 * p < .05 ** p < .01

Table 22
Test of the PGWBS Sub-scales' Time 1, 2, and 3 Means Difference by LSD
in a remaining 25 of family caregivers

Time	M	Time 1	Time 2	Time 3
Anxiety				
Time 1	10.76	-	-4.16*	-7.12*
Time 2	14.92			-2.96*
Time 3	17.88			-
Depression				
Time 1	8.92	-	-1.96*	-2.52*
Time 2	10.88			-0.56
Time 3	11.44			-
Positive well-being				
Time 1	7.36	-	-1.80*	-4.00*
Time 2	9.16			-2.20*
Time 3	11.36			-
Vitality				
Time 1	9.28	-	-3.84*	-4.04*
Time 2	12.76			-0.56
Time 3	13.32			-

^{ns} $p > .05$ * $p < .05$

4.6 Correlation Findings

In the present study, the researcher also conducted an analysis of the bivariate correlation. The results showed that in the Time 1, the SASRQ correlated with the PGWBS and the FAD-GFS. The results are presented in Table 23.

Table 23
The Correlation of the SASRQ, the PGWBS, and the FAD-GFS in Time 1

Variable	1	2	3
1. SASRQ	1.00		
2. PGWBS	-.62**	1.00	
3. FAD-GFS	.54**	-.53**	1.00

** p < .01

As Table 23 shows the SASRQ was significantly negatively correlated with the PGWBS, and positively correlated with the FAD-GFS. Also the PGWBS was significantly negatively correlated with the FAD-GFS. By Time 2 of the study, there was a moderately negative correlation between the SASRQ and the PGWBS ($r = -.40$, $p < .05$). A moderately negative correlation was also noted between the FAD-GFS and the PGWBS. Table 24 provides these findings.

Table 24
The Correlation of the SASRQ, the PGWBS, and the FAD-GFS in Time 2

Variable	1	2	3
1. SASRQ	1.00		
2. PGWBS	-.40*	1.00	
3. FAD-GFS	.09	-.61**	1.00

* p < .05 ** p < .01

One year later, the results showed that the SASRQ correlated with both the PGWBS and the FAD-GFS. The results are presented in Table 25.

Table 25
The Correlation of the SASRQ, the PGWBS, and the FAD-GFS in Time 3

Variable	1	2	3
1. SASRQ	1.00		
2. PGWBS	-.56**	1.00	
3. FAD-GFS	.45*	-.57**	1.00

* $p < .05$ ** $p < .01$

In summary, the findings show that the SASRQ plays a significant role in correlating three times with psychological general well-being. However, the SASRQ had a correlation with the FAD-GFS only in Time 1 and Time 2 of the study. These findings will be discussed in the following section.

4.7 Discussion

This section indicated a discussion of the demographic characteristics of the THI victims and their caregivers, examination the longitudinal findings on the FAD-GFS family health and functioning measures, the Stanford Acute Stress Reaction Questionnaire (SASRQ), and the Psychological General Well-Being Schedule (PGWBS).

4.7.1 Discussion of the THI Victims Demographics

The demographics of the THI victims (Table 1) showed that most of the victims were male. The mean age was 34.44 years. These THI victims' demographics are similar to the previous studies and the national statistic describing the epidemiology of injury (Brzuzye & Speziale, 1997; Dikeman, et al., 2001; Luevanich, 1997; Mathers, Vos, & Stevenson, 1999; McKinlay, 1981; Vachira Phuket Hospital, 20003). Mathers, Vos, and

Stevenson (1999) reported that THI is the major cause of death and chronic disability in people under 45 years of age where the major causes of THI were traffic accidents. This finding is also consistent with comparable Thai studies (see, for example Luevanich, 1997; Mathers, Vos, & Stevenson, 1999; and McKinlay, 1981). The findings from the present study also showed that motorcycle accidents were the major cause of traffic accidents in the research population. Again, this finding is consistent with the Thai epidemiology data showing that the major cause of THI were motorcycle accidents (Thai Ministry of Public Health, 1997; Santikan et al., 1995). This finding is perhaps not unexpected given that Phuket and Phang-gna are like other Thai provinces in that the motorcycle is the most popular means of transportation. The frequency of severe head injuries may also be exacerbated by the fact that the wearing of protective helmets is neither widespread nor enforced in these two southern provinces, compared with Bangkok and its neighboring provinces (Santikan et al., 1995).

The findings from the Rancho Los Amigos Scale (RLAS) applied to assess the THI victims' level of cognitive and behavior functioning disability showed that most of them had the RLAS scores at level III. In this level, victims are capable of only localised responses. They react inconsistently to stimuli and responses are related to the type of stimulus presented. This finding showed that THI victims were in the stages where the incident may have caused long-term cognitive and behavior functioning problems. At this stage THI victims require rehabilitation and support to maximise their levels of functioning. This is illustrated by the Time 2 findings that showed that all of the victims had residual disability as measured by the RLAS scale. After the one year follow up, the researcher surveyed the same cases as in Time 2 (34 cases) to determine the degrees of remaining disabilities. The researcher found that there were only eight cases without residual cognitive or behavior functioning problems. As discussed earlier, participants from Time 2 exhibited in their cause disabilities. It is plausible that the RLAS score can help to predict a THI victim's progress. For this reason, the RLAS score has been used widely for predicting THI victims' long-term cognitive functioning. Flannery (1998) suggested that nurses in acute care settings should use the levels of cognitive functioning scale in assessing victims cognitive functioning and monitor the victims'

progress and provide the appropriate intervention for enhancing victims cognitive rehabilitation early in their recovery process. Shine et al (1989) also suggested that the RLAS could predict the long-term outcomes for THI victims. Similarly, Cifu et al. (1997) findings showed that the RLAS was good at predicting a successful return to work after a THI. The present findings show that THI victims' scores on the RLAS was RLAS III. This suggests that THI victims were at high risk for long-term disability. It is analogous to the stage II of recovery after THI: early stages of recovery (Merit Care Health System, 2002). This level III score on the RLAS suggests that THI victims were at the high risk for long-term disability.

4.7.2 Discussion of the Family Caregivers' Demographics

Table 2 showed that the majority of respondents identifying themselves as primary caregivers were females, and most of them were mothers and spouses. These caregiver demographics are consistent with comparable studies on this population (see, for example, Campbell, 1998; Douglos & Spellacy, 2000; Harris et al., 2001; Leske & Jiricka, 1998; Minnes et al., 2000; Mitchely, 1996; Sander et al., 2003; Teel et al., 2001; Wallace et al., 1998). Similarly, the mean age was 34.44 years (Range 18-72), that is the majority of THI victims were at age when they are likely to have family responsibilities for their own children. There are other social costs associated with severe THI in males. In Thai culture, young men and women are expected to take care of their aging parents and frequently live with their parents after marriage. Moreover, Limanonda (1995) reported that stem family households in Thailand are usually headed by someone 60 years or older. As the present study showed the family caregivers' mean age was 42.27 (Range 21-72). Thus, many victims may still have had responsibilities to their parents regardless of their marital status. When a victim suffers from THI, the person who can support, help, making decision, and provide primary care for the THI victim is the mother. Moreover, the finding revealed that more females than males provided care to the THI victims. This finding is supported by Verbugge (1985) and other researchers. They showed that in most countries females tend to be the main primary caregivers to dependent or disabled family members (Pinquart & Sorensen, 2003).

Alcohol intoxication plays a significant role in head injury accidents. In recognition of this problem the Thai Government and the Ministry of Public Health have introduced a number of education and prevention programs. Despite the efforts on the part of the Government the accident statistics still shows that 40 to 50% of motor vehicle accidents are associated with alcohol intoxication. (National Health Foundation, 2002). Although Thailand's general population is more than 95 % Buddhist this ratio is much lower in parts of South Thailand where Muslims make up approximately 35% of the population. Both Buddhists and Muslims have rules of avoiding drinking alcohol. However, in practice, Buddhists are less strict about their consumption of alcohol. Given in the fact that the THI victims are likely to share the same religion as the caregiver, this could partly explain the slight over-representation of Buddhists in the caregiver sample. 77.8 % of the family caregivers in the present study were Buddhist. This finding is consistent with National demographics in that most of the population of Phuket and Phang-gna provinces are Buddhist (72 % and 77.4 % respectively), while there were 25.53 % and 22.6 % of Muslims in both provinces. Thus, most of the present family caregivers were Buddhist (Office of Phuket Governance, 2002; Office of Phang-gna, 2001).

4.7.3 Discussion of Family Functioning Findings

Previous studies have shown that one of the impacts of a THI was a severe disruption to family functioning (Sander et al., 2003). Thus, an understanding of the family functioning associated with the long and short term impact of THI can help health care providers understand and give more effective support for the family caregivers. To this end, the study used the Family Functioning Assessment Device instrument.

As was shown in Table 3 and Table 4, a One-way repeated ANOVA revealed no significant differences in the means over three time periods (23.08, 22.18, 23.80 respectively) at the .05 level of significance. The additional analysis of the remaining 25 family caregivers (the same cases from Time 1 to Time 3), showed that there was also no significant difference. (See Table 5). This finding was similar to Groom et al (1998). They reported that time since injury was unrelated to family functioning. One reason

may be that the family caregivers seem to view their families as experiencing greater dysfunction from the disruption of THI victims' illness over time. The present result showed that the family caregivers dealt with a long year of the THI victim's disability. There was also a consistent with their first admission of the RLAS, which indicated that THI victims were prone to long term disability.

In contrast, Kreutzer, Gervasio and Camplair (1994a) reported that time since injury was positively related to healthy family functioning. However, this THI event impacted on many aspects of family functioning in three times: the initial time of injury, six months after injury, and one year post injury. The result presents family functioning in the areas of problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control. The findings indicate that the THI resulted in severe disruption to family functioning all three times. This crisis event lead family caregivers to have problems associated with resolving the sudden event, communication within their family members, roles, affective responsiveness, affective involvement, and behavior control. As mentioned above, THI impacts the family as a whole. Some THI victims remain in vegetative states or have a short or long period of residual disability, such as cognitive, emotional, physical, or behavioral changes. This finding is similar to Depompei and Zarski's (1991) suggestion that after the THI, family caregivers have poor problem-solving skills, with particular emphasis on difficulty in identifying problems and formulating approaches. On the communication dimension, families have a conflict between nonverbal and verbal messages. Affective results indicated there was constant overprotection of emotion and lack of personal privacy. Kreutzer, Gervasio, and Camplair (1994b) used the FAD to assess THI family caregivers' levels of family functioning. They found that the most frequent area of family disruption was communication, while over 75% of family caregivers felt they had unhealthy functioning in this area. The remaining 25% of family caregivers displayed unhealthy functioning in the area of roles, rules for behavior among family members, showing affection and warmth with their family members. As will be seen later, these findings are given partial support by the qualitative findings outlined in Chapter V.

Moreover, families have difficulty expressing feelings to each other, unable to be support or confide in one other. Similarly, the study of Orsillo, McCaffery, and Fisher (1993) found that siblings, who took on the role of family caregiver, perceived themselves to be poor problem solvers and that they also found the role impacted on their family functioning.

In addition, Wade et al. (2001) mentioned that THI in children is a severe stressor and was a major source of family dysfunction. The authors used the FAD-GFS to assess family functioning at 6-month and 12-month follow-ups. Their results showed that family emotional support in 6-month was related to the family functioning, with higher levels of support seeking, resulting in lower levels of family dysfunction. Alternatively, Camplair (1989) and Ergh et al. (2002) claimed that family functioning was associated with the victim's neuropsychological status. Behavioral problems were most strongly related to family functioning 60 % to 68 % of the caregivers in the study had clinically significant levels of family dysfunction.

As outlined above, the finding from the present study are consistent with those reported by Payne et al. (1993 cited in Leske, 2000). These researchers found that after THI events, family function was changed because they realised they faced the possible prospect of a permanently disabled family member. These changes can be severe and prolonged (Courtney, 1997). In this regard, these studies also occurred with the Florian et al. (1989), Moore (1993), Perleberg (1999), and Wade et al. (2001) findings. These studies reported that the severely head injured person had a significant impact on family functioning. In particular victims' behavioral deficits and behavior problems of THI victims contribute to the conflict, disorganisation and lack of cohesion within the family unit. Bragg, Klockars, and Berninger (1992) found that families with adolescents with THI had significantly poorer perceived family functioning than non-THI families. This finding was supported by Bragg, Brown, and Berninger (1992). The difficulty that families have in adapting with the victims, disability is because the family system is disrupted in many areas of functioning. Post THI, families are unable to resolve sudden or chronic problems or follow the steps the members go through. This situation is

exacerbated by in effective communication within the family. Family caregivers have many extra tasks regarding homemaking and providing which include the provisioning of resources (food, clothing, and shelter), the family system maintenance, and management (housekeeping, yard work, bills, health issues, power, and decision making). In affective responsiveness, they have emergency feelings (sadness, depression, anger, and fear) to the sudden crisis event. Prince (1992) reported that emotional numbing affects family functioning, and due to the impaired problem solving skills. Max et al. (1998) suggested that global family functioning might be significantly related to novel psychiatric disorders. These psychiatric disorders are involved in areas of family function including behavior control, communication, role, and problem solving. Data was collected at the one year and two-year intervals as well as the caregivers' affective responsiveness at two years, while the behavior control was related the psychiatric disorders at six months.

The family dysfunction measured in the present study was consistent with the finding outline above. The results showed that post THI family functioning was significantly associated with disruption to the family caregivers psychological well-being during Time 1, 2 and 3. (See as Table 23-25). This suggests that after family caregivers were having to deal with the long-term symptomatology associated with the relatives' THI. This symptomatology had to take on the role of family caregiver. This new role, had the effect of increasing the normal family burdens. Camplair (1989), Harwood (1999), and Pollack (1983) mentioned that the family caregiver's burden played a central role in determining at family caregiver's psychological well-being. In addition, Max and colleague (1998) and Perleberg (1999) found that lower levels of family adaptive functioning were related to family caregivers' psychological symptomatology. Moore (1993) reported that THI family caregivers' family functioning was also associated with the family caregivers' levels of depression.

In the present study; Time 2 and Time 3 are rehabilitation phases. It is widely accepted that the family plays a central role in the victims' rehabilitation. In Thailand the provision of community support services means that most family caregivers deal with

the victims' cognitive, emotional, physical and behavioral changes by themselves. This is particularly true in the two provinces in the present study where neither has the community resources to effectively support THI victims and the family caregivers. All of the caregivers in the present study felt they had very little formal assistance in caring for their newly disabled family members. Florian and Katz (1991), Orsillo, McCaffrey, and Fisher (1993) and Moore (1993) indicated that cognitive factors, deficits in adaptive behavior in THI victims can also impair the family's ability to function effectively. In this sense, Zarski, DePompei, and Zook (1989) explained that the family caregivers remain deal with family dysfunction in problem solving, communication, role, affective involvement and behavioral control except for affective responsiveness in the long-term. This may be attributed to the findings of Wade et al. (2003). In this study, they found that THI events created family conflict and were more strongly associated with family functioning.

In Thailand this situation may be exacerbated by the fact that there are no special settings or service departments to support this group of caregivers. This difficulty in caring stems from them not knowing which resources can help them. As will be discussed later, the Time 2 findings suggest that after discharged from hospital, family caregivers believe they should maintain and manage everything by themselves (Gronwall, Wringtson, & Waddel, 1998). As is been widely known THI has a large long-term impact on family caregivers in research literature. Some of the family caregivers felt that after one-year they felt they were just the beginning their role as caregiver. In addition, the carers felt inexperienced as family caregivers and they had no community services to support them. All of these stressors are likely to impact on family functioning. Thus, these factors may be one explanation for the results derived from the One-way repeated ANOVA of family functioning. The results showed that there was no significant difference in studies' three times intervals. Hu et al. (1993) reported that nearly 50% of the families of the severe injury extended disruption of family function 6 months and one of four families still experienced disruption at one year. However, in Time 3, family caregivers displayed the highest levels of family dysfunction. It is plausible that during this time some of THI victims have permanent cognitive,

emotional, physical, and behavioral changes. This finding is consistent with the Camplair's (1989) findings, which reported that THI victims' disabilities impacted on family functioning. Rivara (1994) suggested that in the long-term, if the community has the setting for rehabilitation of victims, this could lead to better family functioning.

Zarski et al. (1988) concluded that family functioning should be considered as an important factor in the THI victims' recovery processes. In the same way it was an important factor for determining the family caregiver's long-term adaptation (Wade et al., 1996).

Thus, Kerns and Curley (1985 cited in Zarski, DePompei, & Zook, 1988) suggested that the changes from THI have acute and chronic influences on the family functioning of the entire family system. The result from Kerns and Curley's study lead them to recommend that health care providers need to appreciate that THI family caregivers often have to deal with the family dysfunction in long-term after the relative's acute head injury. Rolland (1987 cited in Wade et al., 1995) noted that in the acute or critical crisis phases, family routine was disrupted by the patient's hospitalisation. Similarly, tasks during the long-term phase include maintaining or returning to normal family life and promoting autonomy for all family members that may become overly involved in caretaking.

4.7.4 Discussion of Acute Stress Disorder Findings

As outlined, the SASRQ assesses a cluster of psychological symptom which are thought to indicate the possible presence or risk of an acute stress disorder (ASD).

In the present study, mothers and wives had the same percentage (34.8%) of risk of developing ASD. Most of them were employees and married. In addition, the results shown in Table 7 suggest that 35 cases (77.8%) of THI family caregivers met the symptom criteria for ASD following their relatives' traumatic injuries. These findings are similar to those reported by Pittman and Fowler (1998). Pittman and Fowler (1998) investigated families

confronting a severe motor vehicle accident, they found that the parents experienced guilt and fear of loss of their family members. They also found that parents have a reduction in their levels of awareness of surroundings, depersonalisation, and derealisation. These latter symptoms are consistent with the criteria for ASD. Presently both moderate and severe THI cases led the family caregivers to manifest the features of an ASD as measured on the SASRQ at nearly the same percentage whether their relative had a moderate or severe head injury (76.92% of 26 moderate cases and 78.95% of 19 severe cases). This means that when a family member is confronted with the victims' hospitalisation, the family caregiver often met the diagnostic criteria for an ASD. Victims of a moderate or severe THI, both have a high percentage of residual disabilities. Courtney (1997) reported that it is plausible that the family caregivers not only had stress about learning of the THI, but also of the severity of the injury. This effect led severe THI family caregivers to suffer from the anxiety surrounding the uncertainty they were experiencing. This finding is also consistent with those reported by Hu et al. (1993 cited in Wade et al., 1995) who suggest that people's psychological trauma during the acute phase of a relative's injury was associated with an increased risk of long-term family disruption and dysfunction. Moreover, Norvack et al. (1991) found that anxiety was a major problem for family caregivers at this stage. In the present study almost one third of family caregivers had a significant levels of anxiety. This anxiety may lead to ASD if they do not receive the appropriate intervention (Pittman & Fowler, 1998).

When analyzed in each sub-scale of the SASRQ, the result demonstrated that all family caregivers appeared to have dissociative symptoms of ASD (See as Table 6). These dissociative symptoms can include a subjective sense of numbing, detachment, absence of emotional responsiveness, reduction in awareness of surroundings, derealisation, depersonalisation, and dissociative amnesia. In the present study the SASRQ scores showed that family caregivers have problems with their memory, sense of reality, and sense of identity. In this regard, Brimes et al. (2003) reported that dissociation experiences and acute stress symptoms were highly predictive of PTSD. Dissociative responses are cognitive coping strategies. Thus, an acute trauma response resulted in a

lack of attention (Harvey & Bryant, 2002). This finding is consistent with Harvey and colleagues (1998 cited in Bryant, 2000b) and Wade et al. (2001). They found that after exposure to a traumatic event, the participant who met the criteria of ASD displayed poorer results in the areas of their memory, denial, and disengagement. These factors may reflect ASD in response to trauma. Moreover, Guthrie and Bryant (2000 cited in Bryant, 2000a) reported that the people with ASD managed their memories of the traumatic event by using avoidance cognitive strategies. Prince (1992) demonstrated that emotional numbing affect family functioning due to the impaired problem solving skills. In the rest of the four sub-scales, some of the family caregivers did not appear to be reexperiencing trauma, avoidance, anxiety and hyperarousal or an impairment in functioning. The acute range is started at the maximum score. These findings suggested that THI family caregivers in the present study might be at risk of developing ASD. Previously, several studies reported that in the long-term, the presence of ASD can predict the later onset of post-traumatic stress disorder (PTSD) (Birmes et al., 2001; Bryant & Harvey, 1997; Bryant & Harvey, 2003; Bryant, 2000 a,b ; Classen et al., 1998; Harvey, 1998; Harvey & Bryant, 1998; Harvey & Bryant, 2000).

Moreover, Pittman and Fowler (1998) reported that family members will appear to have experience with ASD such as to be in a chronic state of anxiety or hyperarousal, expressing feelings of guilt and having difficulty maintaining their normal functioning in all areas of their life. Some of them feel despair and hopelessness. It can be seen that ASD impacts on both the family caregivers' psychological well-being and family functioning. So the correlation results in the present study showed that the SASRQ was significantly correlated with the family caregivers' PGWBS scores and the FAD-GFS along the caregiving continuum (See as Table 23-25). This finding is similar to Hu et al. (1993) study. They reported that psychological disorder to be an important factor in predicting disruption of family function.

Therefore, health care providers should consider using ASD criteria for screening THI family caregivers, and help them to cope effectively with this traumatic event. This is important because if health care providers can identify THI family caregivers at risk of

developing ASD, they may be able to intervene in reducing maladaptive coping behaviour or assist them with their psychological adjustment.

In short, these SASRQ findings suggest that some family caregivers of THI victims may be in need of extra support at the time when they first confront the emotional trauma of their relative's acute trauma. Nursing staff in accident and emergency units and trauma units should be aware of this need in families and, where necessary given the training and resources to provide this support. Pittman and Fowler (1998) suggested that the extra support to family caregivers, allow family caregiving individuals to describe the trauma event, observe the family members in relationship to self-care, needs, communication, and coping behavior and to guide their realistic interpretation of the events they are confronting. Bond (2002) claimed that health care provider's attention should focus on helping the traumatised families to work through their fears, teaching them to assist in care, and putting together a plan for the future.

4.7.5 Discussion of Family Caregiver Psychological General Well-Being Findings

A moderate to severe THI not only impacts on family functioning, it also has a direct impact on the family caregiver's psychological general well-being. The findings showed that there were low scores indicating poor general well-being on the PGWBS in all three times when compared with the two studies on normal populations in the United States (See Table 12). There have been two large studies on normal populations using the PGWBS. These two national surveys were the RAND Report (n=1,209) and the Health and Nutrition Evaluation Surveys-HANES (n= 6,913). In the RAND and HANES studies the mean PGWBS Scores were 82.1 and 80.3 respectively (Dupuy, 1984 cited in Roberts, 1997; McDowell et al., 1987 cited in Roberts, 1997), compared with the present Time 1, 2 and 3 scores, the mean PGWBS Scores were 57.64, 66.18, and 74.76 respectively. That is, the THI family caregivers had a lower overall sense of well-being at all three times intervals than either the RAND or HANES surveys of a normal random population. However, the score of the PGWBS is better in Time 2 and Time 3. The

result shown in Table 14-15 indicated that the means of the PGWBS in the three times revealed significant differences at the .01 level of significance. Furthermore, the additional analysis of the remaining 25 family caregivers had the same result (See as Table 19). In Time 3, family caregivers have an improvement in their general well-being over Time 1 and Time 2. Similarly, Roberts (1997) found that psychological general well-being of dementia family caregivers in two times were different. In Time 2, family caregivers showed an improvement in general well-being (Mean 72.5, 80.4 respectively).

In the present study, in Time 1, the data showed that most of the THI caregivers (51%) were experiencing severe distress. The qualitative findings suggest this was partly due to the unexpected hospitalisation after THI that severely impacted on family caregivers' psychological general well-being as well as having an impact on family functioning. As in Time 1, family caregivers confronted with the new experiences from the sudden and dramatic changes in their roles, experienced disruption their family life, and their family functioning. In addition, most of the victims had suffered moderate and severe THI. Both types of injury to victims were prone to have residual disabilities. During the acute stage families had to deal with the unpredictable prognosis and waiting for signs of improvement in their relative's condition. All of these factors contributed to family caregivers' stress. Thus, in Time 1 family caregivers' PGWBS scores showed them to have a lower sense of general well-being than the findings for Time 2 and Time 3. It is noteworthy that the findings from the present study are similar to those reported among stroke family caregivers. Forsberg-Warleby, Moller, and Blomstrand (2001) found that during the acute phase of stroke, the patients' severity of stroke had an severe impact on the family caregivers' psychological general well-being. The present study also provides support for the finding reported by Camplair (1989), Leske and Jiricka (1998) and Leske (2000). As will be shown later, the qualitative data suggests that some of this poor sense of well-being may be related to the prospect that their relative may not be able to return to work, the threat of financial problems and the uncertainty surrounding the victims prognosis. Camplair's (1989) study also found that approximately half of the caregivers in their sample experienced a negative impact on their general psychological

well-being. Some of them may feel that their lives are in limbo or that they are in a nightmare. All of these lead the THI family caregivers to feel anxious, depressed, have low positive well-being, low self-control, and their general health and vitality.

Not all caregivers contributed to have low general well-being scores during the Time 2 and 3 measures. For some caregivers in the Time 2 and Time 3 follow-up period, the distribution of family caregivers PGWBS norms fell into the category of positive well-being (41.18% and 72% respectively). Courtney (1997) suggests that this might be because family caregivers adjust to the kinds of problems they are facing. So the PGWBS scores improved after Time 1. This contrasts with Livingston (1987), Semlyen, Summers, and Barnes (1998) and Thomsen (1984). They found that family caregivers' distress is not reduced over time both in six and twelve months post injury. Niyomthai, Putwatana, and Panpakdee (2003) suggested that in the initial phase of the injury, the family caregivers had a short period to prepare themselves for this problem. This may disrupt the family caregivers' life patterns. However, in the long-term they adjust and their caregiving role, becomes routine caring for their disabled relatives. An explanation for this phenomena was proposed by Lezak (1986 cited in Semlyen, Summers, & Barnes, 1998). She proposes that THI families have a six-stage model of family reaction to THI that is useful for helping to understand the impact on family caregivers' psychological well-being. There are three stages that are particularly seen over the one-year post injury. Firstly, the family is pleased at the victim's return home from hospital. Secondly, family caregivers have high expectation of the victims' recoveries. At the same time their optimism decreases as they come to terms with the fact that their relative has a long-term disability. Thirdly, family caregivers still feel distress as the situation worsens or there is no further improvement in their relative's condition. Alternatively, the study by Acorn (1995) showed that families of THI survivors psychological general well-being were found to be better at the six time periods in two years after receiving caregiver education and support programs. In this regard studies by Harwood (1999), Pallack (1983), and Hershkowitz (1990) showed that the family caregiver's burden played a central role in determining the psychological well-being of family caregivers. As will be shown later, the qualitative findings suggest that a sense of burden may be

contributing to the poor sense of well-being found in the present study. In this sense, many researchers concluded that the problem in caring for a THI victims with a chronic disability was associated with the relative's role strain rather than the carer's physical health problems (Brooks & Mc Kinlay, 1983; Gray et al., 1994 cited in Mitchley et al., 1996; Livingston et al., 1987; McKinlay et al., 1981; Oddy et al., 1978).

In summary, the PGWBS findings showed that the well-being of THI family caregivers were somewhat worse than the normal population. However, by the time of the second and the third interview the family caregivers mean scores had improved. This may be based on the victims' levels of severity because it was better and showed that the family caregivers' burdens had decreased. The present results differ from the findings of Leske, et al. (1998). They showed that patient severity was not significantly related to family members' well-being. As outlined, the literature review was unable to locate any Thai studies using the PGWBS, so it is not possible to determine how the findings related to a comparable Thai population.

This concludes the presentation of the quantitative findings. Chapter V will proceed to outline the qualitative findings from the Time 1, 2 and 3 caregiver interviews.

CHAPTER V

Qualitative Findings

5.0 Introduction

This chapter outlines the qualitative findings from the study. The chapter is divided into 3 broad sections corresponding to the Time 1, 2, and 3 interviews. The chapter will present examples illustrating the caregivers' experiences of caring for a relative with a THI over the three phases of the study.

When reading the exemplars presented in this chapter an important point should be noted regarding the translation. As noted earlier, all interviews were conducted in the Thai language and subsequently translated into English. The author has attempted to retain the meaning and sentiments expressed by the caregivers during the translation process. This often results in exemplars where the English may not be grammatically correct.

The presentation of the speakers' identities will use the following notational convention. The first part of the family caregiver identity indicates the number assigned to the family caregiver. The second part indicates the relationship to the head injury victim. Thus, for example, "*Caregiver ID 23, father*" indicates that this was the Caregiver number 23 and he was the father of the head injury victim.

The presentation in this chapter will show the results from the THI family caregivers interviews in the Times 1, 2, and 3. The findings will correspond the six aims of the study:

- a) What is the meaning of "head injury" to the caregivers supporting a head injured family member?
- b) What are the sources of family caregiver distress?
- c) What is the impact on the family caregivers?

- d) What coping strategies do the family caregivers use to deal with their situation?
- e) What resources are used by the family caregivers when dealing with their THI relatives?
- f) Are there any resources that the families feel could assist them in their caregiving role?

5.1 Qualitative Findings in Time 1

The Time 1 caregiver interviews were conducted during the THI victims' hospitalisation. As outlined in Chapter III, a semi-structured interview schedule was used to explore the impact of THI on family caregivers at the acute stage. The Time 1 interviews identified eight broad themes. These themes and their associated sub-themes are summarized in Table 26.

Table 26 The Themes in the Findings

Themes	Section
The meaning of "head injury" to the caregiver	5.1.1
<u>Sub-themes</u> <ul style="list-style-type: none"> - Caregivers' understanding of "Brain edema" - Brain dysfunction - The brain being a vital organ - The severity of the illness 	
The sources of distress of caregivers	5.1.2
<u>Sub-themes</u> <ul style="list-style-type: none"> - Uncertainty of victims' prognosis - Victims' disability - The physician's description of the victims' prognosis - Fearing the victims may die 	

Table 26 The Themes in the Findings (Cont.)

Themes	Section
<ul style="list-style-type: none"> - Financial problems - Lack of or slowness of victims' recovery - The neurosurgical operation 	
Family caregivers expressions of THI	5.1.3
<u>Sub-themes</u>	
<ul style="list-style-type: none"> - Emotion - Perception 	
The impact on family caregivers	5.1.4
<u>Sub-themes</u>	
<ul style="list-style-type: none"> - Financial problems - Family caregiver's psychological and health problems - Family caregiver's working time - Impact on the family caregiver's role - Disturbance to family caregivers daily living routines - Impact on other family members 	
Why they took on the role as family caregiver	5.1.5
<u>Sub-themes</u>	
<ul style="list-style-type: none"> - Distrust of other persons - Need to closely follow and search for signs and symptoms of the victims recovery - Family commitment - Other family members have existing burdens 	
Coping strategies	5.1.6
<u>Sub-themes</u>	
<ul style="list-style-type: none"> - Problem-focused strategies <ul style="list-style-type: none"> * Confronting the problem * Seeking information 	

Table 26 The Themes in the Findings (Cont.)

Themes	Section
-Emotional-focused strategies	
1) Thamjai	
* To make up the mind	
* Karma	
* Changing the attention	
2) Hope	
3) Spiritual support	
4) Acceptance	
5) The use of medication to reduce tension	
Resources to deal with THI	5.1.7
- Formal support	
- Informal support: Self-help group/support group	
Resources for assisting the caregiver role	5.1.8
- Information and training in providing care	

5.1.1 The Meaning of “Head Injury” to the Caregivers

The result from the THI may lead the family caregivers to confront the possibly of permanent change in their lives. The impression gained from the transcript analysis was that in the initial phase the THI family caregivers perceived the meaning of “head injury” under as four definitions. The four themes of head injury were brain edema, brain dysfunction, the brain being a vital organ and the severity of the illnesses are discussed below.

Brain Edema

When first visiting, the family caregivers see the victims in an unconsciousness state. This can be seen in the initial stage of injury in both the moderate and severe THI victims. Normally, the health care providers use the word “Brain Edema” to inform the family caregivers. At the same time the victims’ condition, which the family caregivers were dealing with at that time, was in the area of unconsciousness. Thus, the family caregivers had the first perception that brain edema is a major cause of THI victims unconsciousness. A recent theme to emerge during the interviews was the issue of “brain edema”. During the early stages one family caregiver stated the following quotation:

“I have seen people with head injuries before. [A young adult, her neighbor]. It causes brain edema. A brain edema leads a patient to the showing symptoms of being unconscious, like my son now. It makes me worried. My perception, brain edema is a bad prognosis for my son. I don’t know how the brain edema occurs. I only know head injury has lead my son to have the brain edema.” (Caregiver ID 3, mother)

In the example above, the family caregiver was concerned that the victim’s unconsciousness was the result of brain edema. The word “brain edema” is a technical term, but in the present study the participants used this technique term to express meaning. As they usually hear it from the health care providers, they do not know why it happens. They only perceive that brain edema has caused their relative’s unconsciousness. Thus, the participants meaning of brain edema covers both a bad prognosis and unconsciousness.

Brain Dysfunction

During the interviews, some family caregivers spoke of the specific phase of brain edema while another aspect the meaning of THI related to the concept of “brain

dysfunction". The respondents reported three aspects of brain dysfunction. These were the impact on memory, ability to work in the future and behavioral changes.

Understandably, half of the family caregivers were concerned about the victims' cognitive changes. The quantitative findings showed that most of the THI victims had the RLAS score at level III. Furthermore, the literature reviewed mentioned that especially THI victims with moderate to severe injury are likely to have some difficulties with their cognitive changes. Also, it will often impact on the victims' ability to return to his or her previous employment, training, and lifestyle, implying a residual disability. Thus, the family caregivers assigned the meaning of THI as the cause of brain dysfunction such as a condition of memory loss, unconsciousness and an impaired level of consciousness. Here are several examples that state the THI as brain dysfunction.

"My mother is not fully conscious, not the same as before, because her brain function was damaged. If she gets better, I am worried that she will not be the same as before. Eventually she will be the same as before, but that could be over a long time". (Caregiver ID 4, daughter)

"Head injury is the cause of his memory loss. Sometimes the memory may recover. I am not sure if he will be normal or not. Sometime he appears to be unconscious." (Caregiver ID 5, mother)

"My son can't do anything, because his brain does not function normally". (Caregiver ID 31, mother)

The themes identified above demonstrate that most of the family caregivers were aware of the brain's function, especially the victim's memory. This is the cognitive change that is the most apparent in THI victims. In the present study, the participants were confronted with daily differences in their family member's conditions. In the initial stage of injury, especially in the severe THI group, victims began in a comatose state of unconsciousness. The initial stage of THI is an identifiable and often quantifiable

traumatic event (Courtney, 1997). Family caregivers initially serve a disturbing image of the victim. The eyes were closed there was little movement or no response to external stimuli. Phipp et al. (1997) reported that these symptoms of the unconscious or vegetative state might be present for from 2 to 4 weeks. The results from injury may suddenly exhibit various levels of deficit in physical, cognitive, emotional, and or behavioral functioning, depending on the victims' unique brain traumas (Brooks, 1991; Courtney, 1997). Moreover, this finding is supported by the victims' demographic data presented in Chapter IV.

The Brain Being a Vital Organ

Another theme related to the meaning of head injury was the significance of the brain itself. Some of the family caregivers (24%) stated that the brain is a vital organ for human living. The family caregivers reported that if the brain is damaged, it means the victim may die or will become disabled. These observations are illustrated by the following examples:

“The brain is one part of the head. It is important for living. It has a direct effect on my wife. THI results in changes in brain functioning. When we give her treatment, I am not sure if she will be the same as before or not”. (Caregiver ID 17, husband)

“The brain is the center of all parts of the nervous system and it affects the nervous system. After injury, he is very confused and his speaking pattern has changed”. (Caregiver ID 42, mother)

“The head is very important for human beings. Parts of all body functions take place here.” (Caregiver ID 23, father)

In addition, the brain is a vital organ. Some caregivers expressed the view that THI is a serious injury and victims are prone to death. Here are some of the expressions below:

"THI is very dangerous because the head is the area of all perception. If an injury occurs at the head, it means it is very dangerous". (Caregiver ID 44, younger sister)

"THI is very dangerous and frightening. There can be the bleeding in the brain. I have seen that after there is damage to the head, there is bleeding. It is the major cause of death." (Caregiver ID 40, older sister)

Regarding THI, the family caregiver perceptions of head injury is that it is the most dangerous and serious event. The results from injury may lead the family caregivers to go through many painful experiences in a long-term.

The Severity of the Illness

Following a sudden THI, some persons are unconscious or semi-conscious. Some of them are in a confused state. During this period, some family caregivers gave the meaning of head injury based on the victims' signs and symptoms. They felt that victims that sustain the event suffer from headaches or other pain. As the family caregivers did not know the source of the victim's pain, or the degree of pain, these conditions were often difficult for the family caregivers when helping to lessen the victim's pain. The respondents sensed their relative was in physical pain. The following quotation typifies the family caregivers' meaning of THI as a hardship illness.

"A person who gets a head injury suffers more pain than a person who is injured at other organs. It takes a long time for recovery. This happened to my wife. She was operated on a few days ago, but she is still in an unconscious state. What is it? It is difficult to return to a normal life and it takes a long time. If she were injured at other organs, she would be better by now, but because of this THI, she is still unconscious". (Caregiver ID 32, husband)

"My husband can only open his eyes. He can't say anything. Day by day, he remains in this condition. It is a very long time for me to wait for his good recovery. I've been in this condition for two weeks. He is the same. When I move his body, he cries. I don't know where he is in pain. He can't tell me. I can't help him to reduce the pain. I suffer many hardships." (Caregiver ID 26, wife).

In this regard, 24% of the family caregivers felt that THI victims remained in a coma or unconsciousness for a few days, even a few weeks or months. This had a profound effect on the family system. The present study showed that the words, which the family caregivers usually expressed, were "... he or she is not the same as before". The present study's results showed that THI family caregivers described THI with a negative view; that THI threatens the victims' lives from brain damage and loss of memory. This finding is consistent with Lipowski's finding (1970 cited in Schussler, 1992) described the individual's personal meaning of illness: "illness as irreparable loss or damage. Schussler (1992) mentioned that everyone has a subjective understanding of individual meaning of THI.

Moreover, Livingston and Brooks (1988) suggested that a relative's response to the illness in a family member is usually related to their perception of the meaning of illness. Therefore, when health care providers know the family caregivers' meaning of head injuries, it can help the health care providers to deliver the appropriate interventions to support family caregivers.

According to the victims of THI, they begin in a coma or vegetative state, a state of unconsciousness with an absence of any psychologically understandable responses to stimulation. Hence in Time 1, the family caregivers gave the meaning of "head injury" based on brain edema and brain dysfunction, the brain being a vital organ, and that THI is a severe illness. Most of them felt that THI is the dangerous and serious injury, because every hour their relative hung between life and death. As a result from the injury, victims may have permanent cognitive problems or are in a vegetative state. Most of them will have some residual disability.

5.1.2 The Sources of Distress of Caregivers

As mentioned earlier, THI is a major cause of death and disability. So when a family member incurs a THI, it creates high levels of anxiety in the family caregivers because they do not know how long they will have to deal with the sudden and dramatic changes that have occurred in their lives.

During the interview, the family caregivers were also questioned about the sources of their distress. As Table 26 shows seven themes emerged uncertainty of victims' prognosis, victims' disability, the physician's description of the victim's prognosis, fearing the victims may die, financial problems, lack of or slowness of victims' recovery, and the neurosurgical operation. These themes are discussed below.

Uncertainty of Victims' Prognosis

The THI event is usually a new experience for the family caregivers. When the THI occurred, the family caregivers did not know the victim's prognosis or level of severity. In particular, on the initial day of injury, the victims' signs and symptoms may change hour to hour. In addition some victims were in a comatose state of unconsciousness. Some of them were in a 50-50 stage of survival or in the high risk of permanent disability therefore, the family caregivers felt that the prognosis of their family members was uncertain. Not knowing the outcome or future of the prognosis was a source of distress in the family caregivers. The quotations below are examples of the unpredictability of the victim's prognosis:

"I don't know if my son will be better or not. Sometimes he looks like he is unconscious". (Caregiver ID 5, mother)

"At this time, my perception is that his injury is severe. He will survive or he will die. I am worried. I don't know how to explain this". (Caregiver ID 13, wife)

The result showed that, at the crisis period, the details of the injury and the victims' condition or prognosis were uncertain. Walters (1995) mentioned that the families' stress and anxiety were caused by sudden changes in the condition of the victims. According to the nature of THI, after the first distressing days or weeks, the family caregivers did not know whether their family members were going to live or die. In addition, their lack of experience with a THI and the unpredictability of the prognosis contributed to the family caregiver distress. This may be difficult for the family caregivers to plan their future or manage their family functioning. This finding is consistent with those reported by Hauber and Testani-Dufour (2000), Novack et al. (1991) and Zeigler (1999). These studies reported that the unpredictable nature of the victims' problems from THI makes it difficult for the family caregivers to deal with the situation. The uncertainty about THI victims' recovery from head injury contributed to psychological stress in the family caregivers. MacDonald (1992) and McMillan (1991) investigated uncertainty in THI family caregivers during the first 72 hours of injury. They found that the family caregivers' suffering became of an overwhelming nature at the time of prognostic uncertainty. Paterson, Kieloch, and Gmiterek (2001) reported that this high uncertainty persists even after the victim is discharged from the rehabilitation setting. This finding can be confirmed by the meanings that the family caregivers expressed. Merkley (1997) also reported that at the immediate time of injury, the family caregiver was dominated by concerns about the uncertainty of the victim's recovery. Therefore, the uncertainty of the THI outcome was a significant source of family caregiver distress. This finding is supported by the quantitative results in Chapter IV. The quantitative findings show that in Time 1, the family caregivers are prone to family dysfunction, risk of an ASD, and have problems with their psychological general well-being.

Victim's Disability

The present study showed that all of the victims had impairments during the first month of their injury, such as emotional, cognitive, personality behavior deficits, or psychosocial consequences. These impairments may have become evident over a few

months or years. The responsibility of caring for the person with THI rests largely with family caregivers. This will disturb family functioning and the family caregiver's psychological well-being as well as conflict with the roles, relationships, plans, quality of life, and employment of the caregiver. Fifty-six percent of the family caregivers recognized that THI represented a significant and growing long-term disability. They understood that THI is a major cause of morbidity and mortality, a serious and dangerous illness. This creates severe stress for the family caregivers. As a result, caring for the THI leads the caregivers to have to shoulder a burden, such as psychological distress, and family dysfunction.

The present study showed that family caregivers expressed the victims' disabilities under seven issues: 1) Victims cannot participate in normal communication. 2) Blind, victims cannot work because they are in a vegetative state. 3) They have psychological problems, emotional problems, behavior changes, or memory loss. 4) They can not do anything. 7) They are non-responsive. The examples will be showed below:

"I fear my mother can't talk. She can't see anything and she can't walk. I fear for everything. I fear she will not wake up because now she is unconscious". (Caregiver ID 4, daughter)

"...I fear he will have neurosis, because his speech is not the same as before. If I offer him something, he will hit me. In the past, he never hit me. Never..." (Caregiver ID 9, wife)

In the present study the mean age of THI victims was 34.44 years. Many were young adults who were the heads of their households. After injury, they are prone to have residual disability. This is an obvious impact on their household, especially with family members living in the same house. There is also the impact of financial problems. Moreover, if THI victims have a long-term disability, the family caregivers must play this role for a long time. According to the backgrounds of the victims or caregivers in the present study, they are employees (See Table 2). Most of them (48.9%) depended on

current employment for income. If they take the role as family caregivers for a long time, it may impact on their job stability and may lead them to have financial problems or unemployment. In addition, at the time of data collection, Thailand was confronted with an economic crisis. This impacted on the Thai people as a whole, especially family income. Past studies have documented that THI may leave survivors with negative results. For example, Barr (1993) and Testani-Dufour, Chappel-Aiken, and Gueldner (1992) reported that the THI victim's disability such as cognitive, behavior and physical disability add to the burden placed on their families. Further, Hendrynx (1989) reported that changes in personality temperament or behavior is a concern for families, because almost 15 % will not return to work (FCA, 1996a). In this point, the cognitive functioning assessment by the RLAS (See Chapter IV) indicated that THI victims in the present study had a high risk of residual disability. So it is not surprising that victims' disability was one source of the family caregivers distress.

The “Physician’s Description of the Victim’s Prognosis”

A theme to emerge from the qualitative data analyses was related to the physicians' answers to the families' questions. A physician is seen as a significant member of the health care team, and responsible for giving the THI victims treatment to sustain life. The family caregivers reported that to gain information they asked the physicians about the victim's prognosis. The physicians' answers were viewed as an important for the family caregiver's planning, their situation management, or decision-making for the future. In practice, the physicians' answers have both negative and positive implications for the family caregivers' perception. Almost half of the family caregivers reported that if the physician uses insensitive and unclear expressions, that could lead to family caregiver feel stress. This is one of the sources of family caregiver distress. Family caregivers may feel helplessness and in a hopeless state. The exemplars quotations below illustrate the theme of “physician answer”.

‘Five days ago, I asked the doctor, “Doctor, if the patient is off that tube [tracheotomy tube], can she talk or not?” The physician said: “Now the patient’s injury

is severe. We must help her to survive first." I don't know if she will survive or not. [family caregiver speaks emphatically] I heard this answer, it makes me think a lot. Now I am stressed." (Caregiver ID 1, mother)

"Yesterday, I met the doctor and I asked him if he [her husband] would get better or not. The doctor said: "It is hard to say. It is very difficult to heal. I gave him some treatments and then followed it up for a few days." After I hearing that answer, I think there is no point in treating him if it means he will not get better. I feel hopeless." (Caregiver ID 20, wife)

From the above quotations we can see that the physician's answer is one of the sources of family distress. On the other hand, it is very important for the family caregivers to know the patient's prognosis in order to plan their future lives and to help the victim. The family caregivers can accept the other crisis events, which result from this injury. This finding is in contrast with Campell's (1988) study. She found that all of her participants wanted their questions answered adequately and honestly by health care professionals. In this regard, Fried, Bradley, and O'Leary (2003) documented that 60% of participants wanted physicians to be honest about prognosis communication, yet 91% also wanted physicians to be optimistic. This may be attributed to the difference in culture of the settings. Family caregivers often have little time to adjust to the trauma event. They want to know about the victims' psychological and cognitive changes everyday. In the same way, they hope to hear good results from the physician. Thus, the physicians should be concerned with the wording they use when they tell negative prognoses to family caregivers. They should have a special technique for telling negative outcomes to family caregivers. In addition, they should assess the family caregiver's response to this crisis event before being totally open about the patient's prognosis. Consequently, Jurkovich, Pierce, Pananen, and Rivara (2000) suggested that physicians need to learn how to be sensitive, how to approach, appropriate words, language, and levels of emotion for the delivering of bad news to anxious families. Receiving bad news may result in the receivers creating a crisis, anxiety, uncertainty, confusion, helplessness and fear of losing control over their life (Backman, 1992 cited in

Baile & Beale, 2001). In this sense, Beck and Curtis (2002) reported that most American people want to have straightforward, honest discussions with their physicians. They also want the physicians to be sensitive in their conversation, and they value hope. If the physicians are inaccurate in detecting participants' distress during receiving bad news, this may worsen their experiences. Results of receiving bad news may influence participants' adjustment, anxiety, depression, hope, and decision-making.

In brief, in the initial stages of injury, physicians should deal with the traumatized families with sensitive wording and remember that the participants value hope while hearing bad news.

Fearing the Victims May Die

Clearly, death is the most dreaded outcome of a THI. For this reason the fear of death was frequently discussed by the family caregivers in the acute phase. In reality, everyone would prefer not to hear this word. The death of a significant in family member is defined as grief and loss especially when the THI victim is the head of household. According to the common view of THI, it is a major cause of death. The same time it is a major source of THI family caregiver distress. In the present study, 27% of the family caregivers that talked about death as the following quotations illustrate:

"I fear my relative's death. I fear my daughter will die, because I have seen a lot before. People who are operated on have less opportunity to survive. I think a lot about this." (Caregiver ID 11, mother)

"The only thing which I fear is that he may die. The brain is the most important organ. If it is injured, if he is unconscious, that means he has nothing in his life". (Caregiver ID 5, mother)

"I think that the chances of her survival is only 20 percent. This data is from the physician and the people who visit my wife. I think the only way she can survive is by a miracle." (Caregiver ID 17, husband)

The finding showed that the fear of death was a major source of family distress. As outlined earlier THI prognosis is often highly uncertain and THI victims are prone to clinical change over time and that can sometimes lead to death. Moreover, the family caregivers feel upset seeing their loved ones in a comatose state, unconsciousness or not responsive. Phipps et al. (1997) findings reported that some THI victims evolve over a period of two to four weeks into a vegetative state. In addition, Leaf (1993) reported that in the acute crisis, the family caregiver is often concerned with the victim's life and death. As death from trauma is an emotionally upsetting and poignant moment in the family (Jurkovich, Pierce, Pananen, & Rivara, 2000). This finding is also supported with the quantitative findings of the PGWBS scores. Most of the family caregivers were identified as experiencing severe distress. Moreover, the quantitative findings in Chapter IV show that more than 70% of the family caregivers were prone to the ASD.

Financial Problems

In Thailand families are heavily reliant on the financial income all adults members of the family. The result from THI victims is that families are not only supporting the victim's treatment fees, but they are also responsible for the legal fees that may have resulted from a motorcycle traffic accident. Most of the victims and family caregivers are employees. Moreover, family caregivers could not predict the outcome of their family members' illness. Victims may die or have a short or long-term disability, especially, if the victim is in a vegetative state. In addition most THI victims were family leaders, or the person who supports the family. Some families may impact on their child's education. The following present quotations of financial problems.

"...I feel very sorry. I can't know how to tell you. My thinking is obstructed, because he is my family leader, and he supports my family members' in everyday life and with money. If we lose him, that leads me to think a lot." (Caregiver ID 3, wife)

In contrast, some of the family caregivers worried that if they have the financial problems, the THI victims may not receive the necessary quality of care from the health care system. In this sense the example will be shown below:

"I have no money for supporting his treatments. If I have no money, the physician may not give the complete treatment." (Caregiver ID 20, wife)

We can see that the results following the THI, especially the financial problem is very important for family living, for the cost of hospitalisation, and for the legal process. The sudden death of the THI victim leads the family caregiver to deal with many problems in addition to loss of pay. This is a heavy burden for the family. Hence, this is a significant source of family distress. Since the mean age of THI victims was 34.44 years (Range 18-72, See Table 1) and the sample was dominated by males, they are an age of employment earning an income to support their families. In the Thai context, most of the heads of the households are males. In addition, the occupation of the family caregiver impacts on the employee. Both of them are in their prime of life. If a THI is hospitalised and is the leader or the head of the household they may be forced to stop working for a few weeks or some of them may stop working for a long time. The people who take the role as family caregiver also stop their work to care for the victim. This may lead them to lose their job and income in the future. The financial problems may increase the stress on the family caregivers if that family is a low-income family, because this can limit their ability to maintain or to use health care alternatives on their injured family member. Testani-Dufour et al. (1992) demonstrated that most THI cases are in the prime of life but not yet financially secure. They depend on current employment for income. For this reason, THI victims are generally unable to survive unemployment for a prolonged period of time because they have only just recently entered the work force. Another point of difference between Thailand and the Western countries is in personal

insurance. In the West, most people have health care insurance. This can support peoples' treatment and living throughout their illness. In contrast, 100% of Thai people do not have health insurance coverage. Thus, the Thai government tried to set up the thirty baht medical project to help people to access the health care system.

Distress from Lack of or Slowness of Victims' Recovery

The THI victims in the present study were in the moderate and severe levels of injury. A moderate head injury is more serious and is often concurrent with dysfunctions of other organs (Hickey, 1990). In addition, a severe head injury is the most serious level of THI. Victims need special medical treatment or advanced medical technology to maintain their lives (Headwest, 1996c; 1996d). The result from THI, especially at the severe level, likely leads to death, disability, or to a persistent vegetative state.

Thus, one of the most serious signs which family caregivers are usually confronted with is unconsciousness. Family caregivers feared the THI victims were in a long-time unconscious state, and their signs and symptoms indicated very little no-progress for a several days. As the following quote illustrates, the family caregivers sources of distress from dealing with the lack or slowness of victims' recovery are as follows:

"I can see it if he might be better or not. It [his condition] is the same to me, because he stays in the hospital for many days, but he doesn't look any better. Today he is the same as yesterday. It is the same " (Caregiver ID 20, wife)

"...His symptoms are not better. He is unconscious. He can't speak." (Caregiver ID33, wife)

Unconsciousness was the state, which almost all family caregivers had to deal with in the initial phase of THI. As the pathological, head injuries take a long time for recovery, particularly the severe cases, the family caregivers had to deal with the unconscious person day after day. Family caregivers reported that they were waiting for THI victims

to show signs of improvement, but there often were no signs of improvement. Thus, the family caregivers felt stressed from the experience of waiting for the victims' improvement. Family caregivers felt frustrating and more difficulty in dealing with the lack of improvement (Florian & Katz, 1991). Thus, the family caregivers felt uncomfortable during the waiting and with the unpredictability of the victims' recovery.

The Neurosurgical Operation

Surgical operation is one method of treatment for victims who have an intracerebral hemorrhage, such as subdural hematoma, subarachnoid hemorrhage, or epidural hematoma. If there is a blood clot in the intracerebral space, the physician will remove the blood clot as a matter of emergency. The result from this operation is very difficult to predict. The present study showed that 31 cases (68.89%) had operation. There have 12 cases (38.71%) of the family caregivers expressed this experience. As more family caregivers know that a brain is a vital organ for normal living. So they feel that victims are at a high risk of death during or after the operation, or they may be in an unconscious or vegetative stage. As the following quote illustrates, the family caregivers' sources of distress are making decision or waiting for the results from the operation.

"I fear the brain operation. I fear everything. I used to have this experience from my friend. Previously, the people fear about the operation, but now they look at it as normal treatment. In my mind, it is not a normal operation! A person who is operated on is the same as cutting something out of his/her body. It leads them to be different. It is the same as something that is out of order. When we change it, its function is not the same as the original. I fear about his memory. I fear a lot about this." (Caregiver ID 12, older sister)

"I believe a person who is operated on has less chance to recover than a normal person. If it wasn't important for survival, my wife wouldn't have had the operation. A

complete recovery is difficult. Healing can be delayed. If she were injured at other parts of the body, she would be better by now.” (Caregiver ID 32, husband)

“I am very fearful of the result from the operation. I have never seen it before. There are only a few people who get this operation. That means she had a severe injury. I fear she will not be normal after she comes back home.” (Caregiver ID 39, daughter)

These concerns expressed by the family caregivers have some factual basis. The operation is a common procedure for the THI treatment, but the outcome after the operation can be very uncertain. Some victims will improve in a few days. Some of them will remain in an unconsciousness state and some of them may die within a few days. Moreover, the family caregivers' perception of the operation as a treatment for someone who is diagnosed as a severe THI is a crisis event is a significant new experience for them and they have little time for decision-making. They think the operation may give victims a better chance for survival. So finally they choose the operation because it is the only treatment available. However, after operating, the family caregivers should wait for signs of improvement. They do not know how long they must wait. Consequently an operation is one of the sources of family distress. In this sense, eight of the family caregivers expressed the experiences with bad results from operation. In their mind, the survival rates of the THI victims were not more than 50%. The following quotations illustrate this sense:

“I fear a lot of the operation result. My wife was operated on one week ago, now she is still unconscious. Her survival rate may be not more than 50 percent”. (Caregiver ID 32, husband)

“I think that the opportunity of her survival is only 20 percent....It leads me to stress about this” (Caregiver ID 17, husband)

The two examples show that even although operation is the best way for the family caregivers to chose, they were not sure that the victims would survive or die. Everything

for them was resting on the victims' recovery. In this regard, Wu, Liao, and Wong (1999) studied the neurosurgical outcome at a regional hospital in Taiwan. The results showed that in 480 cases of THI victims who received surgery, 270 cases (56.2%) had a good recovery, 99 cases (20.6%) were left moderately disable, 32 cases (6.7%) were severely disabled, 21 cases (4.4%) were vegetative and 58 cases (12.1%) died. It may be deduced that nearly 50% of THI victims are prone to suffer disability or death.

In conclusion, THI family caregivers must deal with the situational crisis resulting from THI. Brain surgery is a new experience for all family caregivers. The quantitative findings in Chapter IV showed that in Time 1, both moderate and severe THI family caregivers had symptoms of ASD 76.92% and 78.95% respectively. Furthermore, the qualitative findings also showed that the family caregivers had the low PGWBS scores. They were identified as experiencing severe distress and disturbed family functioning. Carpentio's (1981 cited in Testani-Dufoure et al., 1992) finding showed that families of the critically ill worry about the patient and feel overwhelmed in the initial stages of illness. This phenomenon is the evident in the present study of THI family caregivers. From the sources of distress, family caregivers have various feeling or responses to this crisis injury as will be present the following section.

5.1.3 Family Caregivers Expressions /Response to THI

From the sources of distress, the family caregivers demonstrate many expressions and responses in dealing with one of his or her family members suffering from a THI. The present finding can be divided in two major categories: emotion and perception.

Emotion

Emotional feelings were the most frequent of the family caregiver's expressions. In each family the caregiver expresses many kinds of emotional feelings. As we know, THI is a sudden, un-expected, and life threatening event, so after the family caregivers meet or receive this bad news, they have not had sufficient time or opportunity to redefine their

role or the cause of the injury. Emotional expression is the first mechanism used to deal with problems and this is also evident after a THI event. Based on this finding, family caregivers felt very upset, worried, stressed, confused, in an all-pervading state. They feel pity about the victims, and daunted, in trouble, they appeared to have no willpower, were irresolute, and unconfident about their abilities to provide adequate care. These several examples show the family caregivers emotional expressions.

"I feel like I'm in a dream. I don't want to think about this. I feel I have no willpower." (Caregiver ID 36, wife)

"...I was shocked for a time. I was scared. My ideas were blocked. I felt depressed. (speaking passionately/fearfully). When someone asked me something, I could not answer them." (Caregiver ID 27, wife)

(In Thai shock means that the person has a lot of fear and feels very scared or you could not change shocked to dumfounded/mortified)

"I think my daughter will die....I can't see an alternative. My ideas are blocked and I feel confused." (Caregiver ID 1, mother)

Family caregivers feelings about to the THI event are usually emotional response. There one often more than one emotional feeling experienced at the same time, because they are confronted with many sources of distress.

Perception

Perception was one of the other feelings which family caregivers responded with or used to confront their critical event. Beyond family caregivers feeling an emotional dimension, they also have mixed perceptions. In the present study, the family caregivers felt that THI was hard for them to deal with or they were depressed. Many of them were told that the victims would die or suffer disability. Some of them felt that experiencing

this traumatic event was like being in a dream. Some of them experienced denial and feelings of helplessness.

As we know THI is the major cause of mortality and morbidity in all injuries, so most of the family caregivers' perceptions of this injury were negative. In addition, some of the victim's prognoses were unpredictable or uncertain. Thus the negative perception leads the family caregivers to show stress response. These stress factors lead family caregivers to be prone to suffering an ASD as I discussed in the quantitative finding and the emotional dimension above. These perceptions are illustrated by the following examples:

"To entertain tender feelings towards him, I can not Tamjai. I would not like to meet this event. It is difficult for me to Thamjai." (Caregiver ID 44, younger sister)

(The Thai term, Thamjai refers to some one and to an unchanged event)

"I feel daunted. I have no power. My idea is blocked. I can not speak about anything. I only stand and look at her. I feel helpless and daunted. I see she only lies down and has a wound at her head. When I see this condition I feel helpless because the injury is at a critical organ. I think she has a 50-50 percent of survival. I think if she survives, she will not be the same as before." (Caregiver ID 23, father)

In brief, THI takes a massive toll on the victims and the families. Most sources of family caregiver distress are the victims' conditions: unpredictability of their prognosis that may lead the victims to have residual disability. This disability will impact on the family caregivers both in the short and long-term, especially the non-progressive nature of the victim's signs and symptoms. Family caregivers felt that every day the victims were in the same condition. Some of the victims' signs and symptoms changed rapidly, hanging between life and death every hour.

In addition, sources of distress include the techniques of treatment: the operation and the physicians' description of the victims' prognosis. THI is viewed as a bad experience to

the family caregivers because the brain is the consistent that a vital organ. Their perception is, if the victim undergoes surgery, that means victims have a serious injury.

Lastly, family caregivers were concerned about their family financial problems. After the injury, the victims may be out of work. The results demonstrate that family caregivers have emotional feelings and expressions, and the perception that THI victims undergo a critical event. O'Keefe and Gillis (1988 cited in Testani-Dufour, 1992) suggested that families can actually transfer stress to victims. Thus, health care providers should know THI family caregiver sources of distress and knowing their feelings will be useful for giving intervention for the family caregivers to approach the THI victims.

5.1.4 The Impacts on Family Caregivers

After family caregivers deal with THI events, it is necessary for health care providers to know the impacts on family caregivers. From the quantitative findings in Chapter IV, the result showed that the score of the FAD-GFS scores were low. It may be concluded that there is dysfunction in the family. Furthermore, the quantitative findings also showed that the family caregivers had problems with their psychological well-being and more than 70% of the family caregivers were at risk of an ASD. This will be explored in the qualitative findings presented below.

In the present study, the impact from THI on the family caregivers can be divided into six categories: financial problems, psychological and health problems, disturbance of working time, role, restlessness, and the impact on other family members.

Financial Problems

According to the research, most THI victims 77.8%, were males and their mean age was 34.44 years (See Table 1). The demographic data displayed that most of the THI victims were the key money earners of the family. In Thai families, most heads of households

are male. Hospitalisation interfered significantly in the family's economic status. Moreover, the severely injuries were prone to long-term hospital stays. Their families must bear the high costs of treatment fees. In addition, if the victim incurs a legal problem stemming from a driving accident, the family may also have to pay the expenses for their litigants in a lawsuit. From this event, there are many factors that create financial problems for the families. To date, research noted that 21% of family caregivers expressed concern about financial problems. Some of them raised a loan for supporting their family's living expenses, treatment fees and for the expense for litigants. In this complex context, the family caregivers discussed this topic as seen below.

"I am depressed. I have no money for supporting the bus payment during my stay in the house and the hospital. I am very depressed because I will be in debt, because I have no saved money. Now both of us have stopped working. He stays at hospital and I stopped my work to care for him. My family is losing income." (Caregiver ID 9, wife)

"It has some affect on me. If both of us are working, we have enough money for living. If I work alone, it is half-half. Sometimes it is enough for me to use, but sometimes it is not enough" (Caregiver ID 29, wife)

"Now I have financial problems. He is the family leader and supports all our family members. Before this we bought a car to earn a living. We should pay 16,000 baht per month by installments. Moreover, we must pay for water and electricity, and so on. My little child is studying. I should have 40,000 baht to support this each month. Sometimes 40,000 baht is not enough. Now he was injured and hospitalised, I am a housewife. It all leads me to have money problems. How can I support this burden?" (Caregiver ID 42, wife)

From the above, one way for some family caregivers to solve their financial problems is to get a loan for support in their critical financial situation. This has long-term impact

for them in the future. According to my discussion on the above, most THI victims and their families depend on current employment for income. In the hospitalisation period, the family caregivers have many obligations to make payments. Firstly, supporting the treatment fees. In this area, Thailand has third party insurance for traffic accidents, but it only supports 15,000 baht for mild injury, and 50,000 baht for severe injury. This amount money is not enough for the moderate to severe victims. If the treatment fees are more than 15,000 baht for mild injury, and 50,000 baht for severe injury and victims have no other resources for supporting the costs fees, the rest of the fees will be dependent on family caregivers or other family members. If victims have a long stay in the hospital it will increase the financial impact on the family economic status. In addition, during hospitalisation, other family members have to go on living. They need money for their everyday expenses. For this reason, if THI victim stops his or her work for a long time or they are disabled it means that their family members lose wages. Moreover, some families have debts over before victim was injured. This is a big burden for their family members. This finding is consistent with Aday, Atiken, and Wegener (1988 cited in Turnbull & Ill, 1991; Jacob, 1988 cited in Williams, 1991a). They found that after a THI, the financial factor was a serious problem for the family during the hospitalisation period. Its impact can be divided into direct costs and indirect costs. Direct costs were inpatient care, home modification, and recuperation care, while indirect costs were loss of income, interference with career advancement, and travel to visit victims in the hospital. This can lead the family caregivers to confront a situation where they do not have enough money to cover their basic needs (Hall et al., 1994). Moreover, Merkley (1997) found that after a THI, the family caregivers were confronted with mild to severe financial difficulties, representing the biggest stress for the family caregivers. Thus, Testani-Dufour et al. (1992) concluded that the financial problems or economic changes in THI victims' families' impacted the families two-fold. Firstly, there are the hospital bills, followed by the mounting long-term expenses of hospitalisation. Secondly, compounding the issue, there may be weeks to years of lost wages. This will be discussed in Time 2 and Time 3 findings.

Family Caregiver's Psychological and Health Problems

As stated above, the quantitative finding in Chapter IV revealed that 77.78% of the family caregivers were prone to ASD symptomatology, and had an expression of a high negative sense of psychological well-being and severe distress. This qualitative findings showed that the family caregivers suffer from psychological problems as well as a deterioration of health. The following examples elaborate the family caregivers psychological and health problems.

"The time of her hospitalisation, impacted on me in a negative way. It is the psychological feeling more than the other things, because we ourselves are concerned about our love ones. She may return as normal or not. Will she be safe or not." (Caregiver ID 17, husband)

"I have a history of illness. Now I feel not well, but I still care about her, because no one can support me in this role. Sometimes I feel not well, but I worry about her prognosis. I feel confused." (Caregiver ID 18, grandmother)

The sudden event of hospitalisation creates a heavy impact on the family caregivers' psychological condition and on their health, because the family caregivers deal with the day-to-day experience of seeing victims being unconscious and must provide care on a daily basis. Most of them sit at the bedside day and night. This disturbs the family caregiver's rest time. If they are in this situation for along time, it consequently impacts on their health. Moreover, the family caregivers felt distress. Hu et al. (1993) found that at the admission of victims with severe injured led the family caregivers to display psychological disorders. Quantitative finding in Chapter IV, which showed that the family caregivers were at risk of ASD and had low scores on the PGWBS, also supports this. This was supported by Mintz et al. (1995) study. They found that 52% of THI family caregivers had mild to moderate depression, and 48% had mild to moderate anxiety. FAC (1996a) recommended that the family caregiver who has his or her own health problems often found it difficult to continue to provide care for the victims. The

demographic data reported that most of the family caregivers in the present study were mothers (31.2%) and the mean age was 42.27 (Range 21 to 72). After they were confronted with the THI, their leisure time was decreased adding to stress. The family caregivers were easily prone to psychological and health problems. The previous study reported that the family caregivers complained of general physical problems such as decreased energy, fatigue, insomnia, and extreme tiredness (Merkley, 1997). In addition, Novack et al. (1991) found that anxiety was a major problem for THI family caregivers. Linn, Allen, and Willer (1994 cited in Perlesz, Kinsella, & Crow, 1999) found that 73% of the family caregivers expressed depression and 55% of the family caregivers had anxiety. The present study showed that the family caregivers were prone to ASD which is the psychiatric diagnosis of anxiety. This finding is similar to Stebbins and Pakenham (2001). They found that 68% of family caregivers reported clinically significant levels of psychological distress. In this regard, Lane, McKenna, Ryan, and Fleming (2003) also suggested that family caregivers described changes in their psychological well-being and considerably of their health. Thus, Vitaliano, Hang, and Scanlan (2003) argued that the family caregivers exhibited a slightly greater risk for health problems. These findings related to caregiving, have been found in studies in Asian countries as well as in the United States. If family caregivers cannot deal with this problem, it may lead to health problems.

Family Caregiver's Working Time

Generally, THI victims may expect a long period of hospitalisation. Most of them are unable to care for themselves, so family caregivers need to support their daily activities, especially in the severe THI victims. Although in moderate THI, some victims are able to do something by themselves. Some victims may have cognitive problems; such as confusion, or physical problems, including weakness at the extremities. The initial period of THI is the crisis period as was mentioned before. Thus most of the family caregivers (42%) stopped their work and were intimate with the victims at the hospital. By doing this, the family caregivers lost their wages and they had financial problems later on as well. Here are some examples to demonstrate this.

"I stopped my work. All of my family members stopped their work too. I spend all of my working time caring for him. I don't know if it will lead me to lose my job or not." (Caregiver ID 25, mother)

"While he stays at hospital, it is difficult for me to manage. It is not good for my earning. It is difficult for a person who lives from hand to mouth, when one of the family members is injured it is very difficult. Now my responsibility is to take care of him so I must stop my work." (Caregiver ID31, mother)

"It impacts on me, because I am a farmer. My husband worked everyday. We have a chicken farm. Now, I spend all of my time taking care of him. I do not concern myself with other necessary things. His injury is severe. It is more important than other things. I have no time to look after the farm." (Caregiver ID 42, mother)

The family caregivers' working time was one of the sources of financial problems. The three examples above showed that most of them stopped their work in the initial phase of the THI. THI is a serious injury, and the initial phase of injury is critical because in this phase victims either survive or die. Most of the family caregivers knew the financial impact of stopping work, but they had no alternative. This situation also refers to how the family caregivers dealt with financial problems later on. Most of them were employees, dependent on current employment for income. In addition, if they stop their work for a long time, it necessarily interferes with their workforce status. The family caregivers may lose their jobs. This finding was supported by the Montgomery, Oliver, Reisner, and Fallat (2002) study, which reported that 30% of the families dealt with the loss of employment.

Impact on the Family Caregiver's Role

THI leads the family caregivers to dramatic change their family functioning, especially in role definition. The nature of THI is sudden and unexpected. The time period for this

event is short, but the impact is long-term. So the family caregivers shift their role from normal daily living to the added responsibility of taking care of a loved one as well as other additional functions. The dynamics may interrupt other family members. The following example will show this.

“It is very difficult. I have no time to do my housework. I have two other sons who still go to school. I worry about both of them. Nobody is doing the washing or cooking for them. So I worry a lot about my family members. I stay at the hospital, but I worry about all of them at home too. When I stay at home, I still worry about my son who stays at hospital too. Thus, I decided to stay at hospital.” (Caregiver ID 5, mother)

Briefly, during the acute period of THI, the family caregiver had/ do not have sufficient time or opportunity to redefine their roles. Zeigler (1999) reported that on the THI victims' survivors, there is an impact that is especially devastating. Roles in the family are changed, and responsibilities are shifted. They must juggle a variety of tasks at the same time, such as household management, parenting, visiting or caring for the injured. The impact on the family caregiver's role also disturbs their daily living. So, the quantitative finding in family functioning showed that the family caregivers dealt with family dysfunction at Time 1. This phenomenon was supported by the Zeigler (1999) study. It reported that the impact from THI was devastating, especially the roles of the family were changed, and the responsibilities were shifted. The family caregivers took as a variety of tasks that they did not have before. The changes happen quickly (Zeigler, 1987). Sander et al. (2003) said this is a big burden for the family caregivers.

Disturbance to the Family Caregiver's Daily Living

Looking after an injured person is a busy task. THI victims are most of the time not fully conscious. In the acute period, they need close observation and care, because they experience psychological changes, emotional changes, cognitive changes, and physiological changes. It is a critical period for the victim's survival. Most family caregivers look forward to hearing the victim's prognosis. They cannot do the same

activities as before, such as shopping, going out with friends or have a holidaying with other family members. The following quote illustrates the family caregivers' expressions of the impact on their normal lives.

"...I can't sleep. I can't eat. I can't go anywhere. Nobody can help me to take care of him. I feel very tired". (Caregiver ID 24, wife)

"It is a big change. Before I slept on a bed, now there is no sleeping area. I worry about my wife all time". (Caregiver ID17, husband)

After the THI event, the family caregivers changed their life styles. Most of them spent nearly all of their time looking after the THI victims at their bedsides. Their perception at the initial stage of injury was that they should spend more time, more attention, and more care, besides looking after the demands of the victim. Hu et al. (1993), Jones (1996) and Sander et al. (2003) studies supported this finding. They reported that one of the changes for the family caregivers was the disturbance of the caregiver's daily living, especially the decrease their leisure time.

Impact on Other Family Members

A family is an open system. When one of family member gets sick or injured, this impacts on the family as a whole. Hence, the findings showed that the result from THI not only upsets the family caregivers, but also impacts on other family members. In particular, it reflects negatively on their siblings. The family caregivers felt that after they take on the caregiver role, the family loses its warm and friendly attitude. In some cases it may have affected the victim's sibling's education, because the family's economic status was poor. They could not support both victims and other family expenses at the same time, especially, if the THI victim was the head of the household. These feelings are illustrated by the following examples:

"...loss of family unity, cohesion, and love. I take care of him in the hospital. Other family members must go to school. The love in my family becomes less. The convenience and the comfortable lifestyle are lost too. He has one younger brother, one older brother, and one younger sister. Now we lack a sense of family unity." (Caregiver ID 3, mother)

"How can my children still have an education if they have lost their father? He was the earner for the family. If my family loses him, it loses the income that we received every month. Our children are in their school-age." (Caregiver ID 36, wife)

"I fear he is not getting better. He has three children. He is divorced. He lives with his father and mother. Both of them are elderly. If he is not better, I am not sure my siblings will be able to support or look after his children. I feel sorry for my three nephews. All of them are in school-age (8,9,12 years old). I am very worried if their father is not the same as before. How can they live? (Caregiver ID 34, older sister)

Most of THI victims were the heads of households. After their THI, other family members were disturbed and their children were especially affected. These children were predominantly at a school age. Some of the victims had more than one child, they needed the financial to support for their children's education. This is a big problem for low-income families, which may lead children having to leave school if the family incurs a high financial strain.

The results from THI may lead the family to lose cohesion. Most of the family caregivers were mothers. After the victims suffered THI, the family caregivers spent all of their time caring for their sons or daughters. They had no more time for being a normal mother. Curtiss, Klemz, and Vanderploeg (2000) reported that THI was the cause of family structural change. This finding was consistent with the Willer and friends' (1990 cited in Minnes et al., 2000) finding. They reported that the family caregivers were confronted with a number of other problems, such as the event of

injured siblings and disruption of family life. Tozer's study (1996) showed that siblings who live with disabled victims received less of the parents' time and attention.

In conclusion, we can see that the results from THI affect the family caregivers in many dimensions such as in being a family role model, daily living, financial status, other family members, psychological and health problems, interruptions to family caregiver's working time, and lack of sense of family. This leads the family caregivers to experiencing more psychiatric disturbances and subjective burdens (Livingston & Brooks, 1988; Livingston, Brooks, & Bond, 1985b; Livingston 1986 cited in Kay & Cavallo, 1991). The family is an open system, the illness or injury of one family member disturbs the family as a whole. Thus, the quantitative findings at Time 1 showed that the family caregivers were prone to ASD, exposed to family dysfunction and were identified as experiencing severe distress.

5.1.5 Why Take on the Role as a Family Caregiver?

THI is a crisis event that has many ramifications on the family caregivers. The present study also explores why participants play the pivotal role of family caregiver. The findings showed that they had four reasons to lead them to making a decision to take this role: 1) they do not trust other persons, 2) they need to follow the victims' signs and symptoms, 3) there is a family commitment, and 4) other family members have also other burdens. These topics will be discussed as below.

Distrust of Other Persons

Trust is a sense of confiding in someone or in something. The perception of the family caregivers on THI is that it is a severe or dangerous illness. Its signs and symptoms or prognosis change over time, especially during the initial stage of injury. The physician usually gives the victim's prognosis after a few days. From this assessment, the family caregivers felt that the victims' signs and symptoms may change over time. Most of them spent day and nighttime at the bedside, following the prognosis. Some of the

family caregivers expressed that the one thing that they should do was give close attention and take care of the victim. They did not trust other persons to take care their family members. They thought that they could give better support for the THI victims than other persons. Here are some expressions related to this topic.

“I do not trust other persons. I should trust myself. Their kin can’t do better than a mother. You should believe me. Their kin are good and they love together, but it is not the same as a mother.” (Caregiver ID 1, mother)

“I do not trust other persons. When I come home, I do not trust other person for helping me to take care of him. So I care for him myself. It is better. It makes me feel good. If something occurs, I can know it by myself. I fear other persons can’t give better care than I can. (Caregiver ID19, mother).

From the above quotations, the results indicate that the family caregivers expressed that one of the reasons why they took on the role as caregiver was because they did not trust other persons. This phenomenon is consistent with Verbugge (1985) who reported that females are likely to better look after their loved ones and solve health problems better than males. The same point is made by Zeigler(1999). He reported that society tends to place more expectations in female caregivers. In addition in Thai families, it is expected that women do all the caring for the children. Mother’s should care for their children event if they have a THI victim to care for. Hence, the demographic data of the family caregivers showed that most of them were mothers (See Table 2).

Need to Closely Follow Signs and Symptoms of Recovery

In the initial stages of THI, some victims’ prognoses are uncertain or unpredictable. Its signs and symptoms can change over time, so most of them accepted that this is the most critical period for the victims and their families. Some family caregivers felt that the victim’s survival rate was 50-50. This phenomenon was discussed as above in the sources of distress on family caregivers. Thus, most of them were concerned about the

victims' changing signs and symptoms. They spent day and night at the victim's bedside because they wanted to be intimate and follow the victim's prognosis. The most common expressions are quoted as below.

"...I want to follow his recovery by myself. I need to know about his signs and symptoms and to see if he is any better or not. I want to know by myself. I am very worried." (Caregiver ID3, mother)

"I need to be intimate with him. I do not know. I think that at this time my son needs a mother for caring about him. It is the same as a mother's feeling. I want to be close and care for him when he is ill or injured." (Caregiver ID 15, mother)

Most family caregivers keep in mind that THI is a serious injury. This can be supported by the meaning of "head injury" which the family caregivers discussed as above. Their family members' signs change overtime. In addition, most of the family caregivers were mothers. They had the commitment to the caregiving role as will be discussed in the next section. Hubert (1995) reported that in the initial stage of THI, the family caregivers sat at the bedside. They watched for signs of consciousness, waiting for their hand to be squeezed by the victim.

Family Commitment

In the Thai family, family members live in the same house and share many aspects of day-to-day activities. (Limanonda, Podhisita, & Wonggsitin, 1991 cited in Kespichayawattana, 1999). A majority of Thai families' structures are extended families, so after one of their family members suffers an injury, other family members will help each other to maintain a steady state of homeostasis. Family members, especially those who defined themselves as the family caregivers, would spend day and night at hospital. Why did they do that? Because all of them had a blood relationship or a close commitment. Even though the caregiver role increased their stress levels all of them were pleased to take on this role. Some of them explained as below:

"Because I am his wife. If I do not take this role, I do not know who can support this task. After this, we will still live together. He is my husband. He is the head of my household. If two of us can not take care of each other especially in a period of illness or accident, who will? " (Caregiver ID 13, wife)

"I am her only daughter. I worry about her. If a daughter can't take care of her mother, I do not know who will take care of her. It is a good time for me to pay my mother back for everything she has done for me. I can pay Bun Khun." (Caregiver ID 39, daughter)

[Bun Khun is a Thai term that refers to pay back)

"It is necessary for us to take care of our mother when she gets sick. We must realize that she is the most important person in the family.." (Caregiver ID 4, daughter)

In Thai social life, to pay back ones mother, father and elderly family members is a cultural obligation. This pay back is called Bun Khun or Pra Khun in Thai terms. There is no English equivalent for this term. It means any good thing, help or favors done by someone, which results in gratitude and obligation on the part of the beneficiary. This is a contractual relationship between parents and their children. The Buddhist doctrine is also concerned with "rare persons" that includes father, mother, elders, and ancestors (Kespichayawattana, 1999).

In the Thai context, the father and mother are the most revered of the relatives. Buddhism regards persons that are obligated to their parents as Katanyu (ingratitude) Katavedi. Katantu refers to the sense of gratitude that the family members have towards parents. Katavedi refers to the obligatory actions done to pay back parents. This concept of children action (taking care) will bring harmony and happiness to themselves and society. In contrast, those children who do not take good care of their parents, are considered ungrateful and are condemned by other kin, neighbors, and society.

In this study, most of the participants were mothers. Tungpunkom (2000: 11) said, "... bonding with an ill relative and caring without expectation of payback may not be limited to mothers". Rose (1992 cited in Tungpunkom, 2000) mentioned that bonding is one kind of power that has the ability to manage an illness situation.

Furthermore, spouses are another group to take on the role of family caregiver. In the present study there were 13 wives and 2 husbands that took on the role of family caregivers. The reason that lead them to take this role was marital commitment. Vitaliano, Zhang, and Scanlan (2003) reported that the caring for a spouse might be viewed as a marital commitment. This kind of commitment is an important predictor of family caregivers reflects their aspects. For example, the ability for problem solving. Adams and Jones (1997) mentioned that marital commitment components were commitment to marriage and commitment to spouse. All of these lead the family caregivers to show dedication, devotion, love, and a concern for the moral of the social context. Spouses have a sense of obligation and responsibility for each other.

Thus, commitment is a significant factor in the continued stability of a close family relationship (Adams & Jones, 1997). The present study's results revealed that especially when the THI victims were elderly parents, the family caregivers tried to provide good care for them and were pleased to take on the caregiving role. Hooi (2002) mentions that caring is a kind of bonding with the ill relative. It gives meaning and it is an opportunity for them to show gratitude and repay the favors done by the parents. Merkle's (1997) study demonstrated that one reason leading to family caregivers taking on the role, was an intense concern or commitment for the THI victims. Moreover, we can see that Buddhist teachings have the most influence in Thai social life. Based on this doctrine, Buddhists perceive that parents are designated as being deserving of four kinds of reverence: a) "Brahma", the God of giving in children's lives, b) "the first divas" means the God of children's life, c) "the first teachers", and d) "those worthy of offerings and gift from their children"(Bullit, 1998 cited in Kespichayawattana, 1999). This finding is also confirmed by Pierce (2001). She explained that one of the family caregiver caring expressions was filial piety. The value of commitment made the family caregivers adjust

to the caregiving role. This is a positive attitude and focuses on what they have to maintain their family system.

Other Family Members Have Existing Burdens

In modern Thai society, both male and female work. Each member of a family is a significant part of each other's normal lifestyle. After a THI event, the victim's responsibilities must be added to those of the other of family members. According to the injury process with a focus on the brain, the victim experiences physical, psychological, and emotional changes. Some of them have a self-care deficit. Some of them need partial self-care replacement from other persons. In all of these conditions, victims need someone to care for them in both the short and long-term. Thus, in each family it was important to define who could take on the role of caregiver. The family caregivers narrated:

"My son can't take this role, because he is working. My daughter has her own family. She has a child too. Her child is at a school age. It is necessary that I should take care of him by myself." (Caregiver ID 27, wife)

"No one can take on this role. Only I can do it, because our daughter just started her work. If she took this role, she would have to leave her work. I don't have a salary. She can earn for the family. So I decided to take this role." (Caregiver ID 32, husband)

The quotations above also illustrate some the criteria for considering whom in the family should take the role as family caregiver. According to date, the main source of the participants' income was from employment. Thus, the first choice for caregivers takes role as the family caregiver is someone who does not have a steady salary. This decision may help ease the strain on their financial resources.

5.1.6 Coping Strategies

Coping is the process or psychological mechanism that the family caregivers used in specific cognitive and behavior efforts to manage the increased demands that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1984). THI is a critical illness for both victims and their family members. It leads to major changes in family functioning, family psychological well-being, and family members are more prone to ASD. From the prior research mentioned, it is apparent that THI family caregivers are confronted with many stressors and strains in the caregiver role (Leske, 2000; Leske & Jiricka, 1998; Willer et al., 1991). During the initial period of injury, it was difficult for the family caregivers to deal with the sudden changes imposed by this life-threatening event, because they had to deal with many stressors, including role changes, financial problems, uncertain prognoses, and decreases in work and leisure time and social life. To date, the family caregivers reported a number of different types of coping strategies. The present study will present the family caregivers' coping strategies as the Lazarus and Folkman Theory reported. According to Lazarus and Folkman (1984), the coping strategies can be grouped into two types: problem-focused strategies (ie: direct defining of the problem) and emotion-focused strategies (ie: changing the meaning of a stressful transaction without reality).

Problem-focused Strategies

Problem-focused strategies seek to confront the reality. It is the direct way for THI family caregivers to solve critical and stressful problem. Confronting the problem and seeking information were strategies used in the present sample of THI family caregivers.

a) Confronting the Problem

In the present study, the impression gained from the transcript analysis was that one family caregiver thought he could manage this critical illness. This positive thinking him

to try and solve the problems. The quotation below is an example of family caregiver confronting the problem.

"I think nothing can be the same as before. I know this event. Because I am sure that I can overcome the struggle. I can do that. I do not mind which state she will be in. I am sure I can hold on to this situation." (Caregiver ID 17, husband)

From the example, the family caregiver assessed himself and believed that he could manage this crisis event. This is an example of family caregiver strength, at the same time he was thinking he should do something and trying to solve this problem. This finding was consistent with Almberg, Grafstrom, and Winblad (1997), Feifel, Stack, and Nagy (1987), Hermann, Scholmerich, and Straub (2000), and Melanson and Downe-Wamboldt (2003). They found that people frequently used confrontation coping strategies to manage the stress, because it was deemed to be most effective for them.

b) Seeking Information

Based on the information collected THI was a new experience and the major strain for the family caregivers. The nature of the injury is a seriousness and uncertainty of prognosis. Many of the victims' day to day conditions was in the comatose state, there was little movement or an absence of responses to stimulation. Moreover, the family caregivers gave attributed meaning of THI as a lack of recovery. One strategy that could help them to release their tension was seeking information of the injury progress or the victims' signs and symptoms of change from the physician each day. The family caregivers narrated:

"I try to ask the physician about the severity of my son's injury. Is there anyway for treatment? The physician gives me an answer everyday. That gave allows me to have hope that my son will be better. I like to consult with the physician. It helps me come to the point to help my son. It relates to the brain damage." (Caregiver ID 19, mother)

In seeking information in the initial stages of injury the family caregivers consulted health care providers, and especially the physician. Therefore, the answers which health care providers give to the family caregivers should be delivered with sensitivity and awareness. The example showed that in the immediate stage of THI, the significant source for the family caregivers to seek the information from, was the physician. This focus is supported by Almberg, Grafstrom, and Winblad (1997). They reported that the family caregivers used seeking information, as one of their problem-focused coping strategies.

In brief, coping with the effects of a head injury is a challenge for the family caregiver. In the present study the family caregivers used two methods of problem-focused coping which are active coping strategies: confronting the problem and seeking information. Minnes et al. (2000) found that THI family caregivers used problem-focused as one of coping strategy. At the same time, the family caregivers also used emotion-focused coping, which will discussed below.

Emotion-focused Strategies

The emotion-focused strategy's aim is to relieve the emotional impact on family caregivers without distorting reality. In this study, in the beginning, family caregivers used emotion-focused strategies more than problem-focused strategies. For example Thamjai, hope, spiritual support, acceptance, and the use of medication to reduce tension. Four categories of emotion-focused strategies will be discussed below.

a) Thamjai (Thai term)

There is no English equivalent for "Thamjai". It refers to the family caregivers understanding and dealing with sudden change events. Sethabouppha (2002) described Thamjai. It represents two Thai words: Tham and Jai. Tham means "making up" and "Jai" means mind. Thus Thamjai means "...to making up one's mind of face, understand, and deal with an unchanged situation that can disturb one's mind" (p. 191).

Thamjai is a process of psychological emotion and a feeling of adaptation. Family caregivers (34.5%) try to seek self-confidence, willpower, to appease themselves. It leads the family caregivers to feel better. It helps the family caregivers feel stronger and decreases negative thinking. Stress and strain may have an impact on family caregivers' health problems. These are revealed in the following excerpts:

"I should Thamjai. It depends on them. I keep my word. It helps my heart feel better." (Caregiver ID1, mother)

"I should Thamjai. Not only my mother had received injuries, but also everyone is confronted with this event over time. It may occur sooner or later. We can't know when and how accidents will occur. We should Thamjai." (Caregiver ID 31, mother)

"...One way which I can do this is through Thamjai. I think she will be better one day. If she doesn't die". (Caregiver ID 33, husband)

From the three examples above, we can see that Thamjai is the main point that the family caregivers used for releasing their tension. The word of Thamjai is normally used for Thai people when they deal with stressors. Sethabouppha (2003) recommended that Thamjai is the Buddhist teaching of how to deal with an unclear mind. Based on the fact that most of the family caregivers' religion was Buddhism, the family caregivers' expressions were related to their religious beliefs. Sangchart (1997) recommended that Thamjai reflects people belief in internal and external control. Sangchart (1997) mentioned that the aims of Thamjai were actions for psychological support, to hold back emotion and feeling, to appease and to help family caregivers to calm down.

Firstly, regarding the internal locus of control. People believe in their religion's miraculous powers or the power beyond their control. The Thamjai method which family caregivers used in this study can be divided into two patterns: to cremate and to think about the concept that this event is the victim's Karma.

Secondly, regarding the external locus of control. People believe in their ability, power, strength, and willpower, which are created by themselves to solve the threatening event. The aim is to achieve a balance of mind. The participants in this study expressed three patterns for coping with this serious event: to make up the mind, changing the attention, and pledging to the miraculous power of their God or think that is the Karma result. These are the methods which family caregivers used to cope in their crisis and life-threatening events.

1) To make up the mind (Prong in Thai term)

To make up the mind is one of the methods that the present study THI family caregivers used to make a decision to feel sadness or grief in their crisis event. At the same time, family caregivers accepted the events, which they were confronted with, and this decreased the severity of the stressfulness of THI event. This method helps them feel well and calm down. This expression will be presented as below.

“The thing which I would not like to be confronted with has occurred. I should Thamjai. I feel upset. I think it is a sad event, but I should make a decision. If it occurs, I should make up my mind. No way I can do it better than this. When my mother gets injured, I take care of her. I can not neglect my mother.” (Caregiver ID 4, daughter)

“I feel scared. I think whatever will be will be. This is one method, which I use to make up my mind. This method is okay.” (Caregiver ID 9, wife)

In the present study, 34.5 % of family caregivers used Thamjai to deal with their stressful event. In this sense Thai society is using a coping method, which is not the same as previously, found in Western studies. Normally, Thai people use Thamjai, combined Prong. Prong, a Thai term which refers to decisive acting of making up the mind. It adheres to the Buddhist doctrine, which teaches that Buddhism lead a modest lifestyle. It preaches not to put one's faith in abstracts. This method is the first step, which helps THI family caregivers to accept the reality of the event. The thought

processes involved in these methods include affirmations such as everyone will be confronted with this event one day sooner or later and whatever will be will be. Thus, “letting go” is one of method which family caregivers used to cope with the stressful event. This tactics leads the family caregivers through the crisis event better enabling them to deal with it as a normal event.

2) Karma

Most participants in this study were Buddhists, so most of them believed in Karma (merit) and Babb (demerit). In a sense, Thai Buddhist caregivers are connected to Buddhist principles to sustain the family caregivers to the THI victims. They believe that THI victims suffered the injury as a pay back in their of life retribution. The laws of Karma are based on the belief of the Karma Boon (merit) and Babb (demerit). People who do bad deeds should receive negative results from that Karma Babb, and they can not avoid the results. The laws of Karma refer to the law of cause and effect (Tongprateep, 2000). That means their present existence depends on the karma formed during the victims past life. It means if we do good deeds in this life, we can expect good conditions in the next life. In the same way, if we do the bad things in this life, bad things will happen to us in the future. This method can help the family caregivers to maintain a positive attitude in a crisis event. Lastly, it can help the family caregivers accept the stressful event. The following excerpts give examples of participants that describe the THI event as the victims’ Karma.

“It is time for my mother to get an injury. Its her karma.” (Caregiver ID 39, daughter)

“I feel not well. But again, it is upon her Karma Boon and Babb. If she stays alive, she will get better.” (Caregiver ID 1, mother)

From the examples shown above, the Buddhist religion exerts many influences on the family caregivers’ coping strategies. Most Thai family caregivers reported that their

Buddhist belief system played an important role in their coping strategies. Their perception was that the victim received the injuries due to the victim's bad rebirth. In addition, they believed the victims would have a good or bad recovery related to their past lives. All of these forces are beyond the family caregiver's ability to manage. The result showed that THI, especially in Thai Buddhist families' caregivers have strong beliefs in the results of the laws of Karma. That from a victim's past life determines this future. According to Buddhist philosophy, Karma means action, performance with attention, or volition. Its performance includes physical, verbal, and mental action (Sethabouppha, 2003). Also Karma is regarded as fate, unalterable, fixed and unchanging (Hall, 2002). It helps the family caregivers accept this crisis event. This finding was similar to Sethabouppha's study (2003) in the cause of serious mentally ill family caregivers. She found that Thai family caregivers believed in Karma. Karma helped the family caregivers deal with suffering in their caregiving role. Moreover, the laws of Karma led the family caregivers to feel a sense of having pride in caring for their family members (Tongprateep, 2000). D'Avonzo, Frye, and Forman (1994) reported that Buddhist, belief in Karma is helpful for families to deal with difficulties. In addition, Ip and Mackenize (1998) reported that Chinese family caregivers used religious beliefs. The practice in their religious beliefs gave them peace of mind and helped them to reduce the stress of the caregiving role. In Yamashita's (1996) view, religious beliefs act like social support. Karma is a significant belief in the family caregiver practice. In this area, Payutto (1995 cited in Sethabouppha, 2003) summarized as follows:

“Be responsible for putting an end to your own bad Karmma [Karma] and be responsible for others by acting properly towards them...as for past Karma, use it as a lesson, know and understand yourself according to reason...make a plan for steady progress that is headed in the right direction...have high hopes for the future of humanity” (p. 225)

Gloersen and colleague (1993) suggested that the religious belief process helps people feel and develop in achievement. In conclusion, the Buddhist philosophy of Karma is

useful for Thai THI family caregivers to accept the results from the victims' injury, disability. In addition, it helps the family caregivers to deal with this serious problem and increase their peace of mind.

3) Changing the Attention

Changing the attention is another method which THI family caregivers use to cope with their crisis. When they cannot accept the crisis they use other techniques to help relieve stress. This can help them to decrease their emotional discomfort. In the present study 34% of the family caregivers used tactics such as speaking with other persons, doing something, or reading the newspaper. This point is illustrated also by the family caregiver experiences of changing the attention.

"I speak with others that are also family caregivers. I can express myself. My friend's feeling is the same as mine. All of us are in the same situation. But the signs and symptoms of my son are different. However, it is the same story which we talk about together." (Caregiver ID 19, mother)

"I think a lot. I feel very stressed. So I walk to join with my friends (other victim family caregivers) who feel better than I do. They talk about other things. I sit and listen. If I stay alone, I think a lot. I listen to their stories. It can help me feel better. I forget the stress event in my own family. It can help me to release the stress in one or two hours." (Caregiver ID 20, wife)

"I walk and look at the surroundings in the ward. I talk with other family caregivers. It can help me to relieve my stress. Sometimes I read a book or do something else. (Caregiver ID 44, younger sister)

To this point, 34% of the family caregivers relieved their tension by changing their attention by talking with other family caregivers, and friends. These people form a kind of social support that will be presented in the next section.

THI is a major strain for those who take on the role of family caregiver. The family caregivers in this study indicated that one method they used to cope with the stressful event was changing their attention. In this way, the family caregivers experienced a need to relax, to relieve their suffering in a caregiving role. Most family caregivers in this study were speaking with other victims' family caregivers regularly, and this led them to seek information and from social support for each other.

b) Hope

Hope as another method of coping strategy. The THI family caregiver uses hope to cope with their stress and burden from the injury. The present study showed that THI family caregivers (20%) used hope for maintaining an effective equilibrium in this crisis event. This method can help them feel better and help them to have the willpower to deal with the problem although they knew that at the immediate stage of the crisis that would be very difficult to predict the prognosis. They still had hope enough to wait for the victims' signs of improvement. The following account reflected this point:

"I think that the trend will be towards improvement. She will survive."
(Caregiver ID 17, husband)

"I hope however my son will be okay. The physician told me that my son's clinical condition improves day by day. That is my willpower." (Caregiver ID 19, mother)

"I think one day she will better. She will not be like this forever." (Caregiver ID 28, older sister)

In this sense, 20% of the family caregivers used hope as one method of emotional-focused coping. Phipps (1997) found that in THI families, profound hope is a factor leading to full recovery. During the immediate THI crisis, hope is significant for families to confront this crisis (Mass-Clum & Ryan, 1981). McGee (1984) explained

that hope was a subjective response and a common psychological and physiological defense in a crisis situation. Moreover, Frank (1968 cited in Tracy, Fowler, & Magarelli, 1999) mentioned that families that are hopeful, may envision a positive future for their critical event. Wongvatunyu (2003) found that mothers who have the experience of helping a young adult with THI have hope for the best for their child. Thus, hope can be seen as the main defense against hopelessness and is in a sense successful in coping with stress in the present and in the future. Moreover, it is an important factor for healing and living. It is useful when people are confronted with a threatening life event, grief and loss, or the changing of life patterns (Nowotony, 1989). Hope helps people to decrease their emotional discomfort, especially those emotions associated with stress or a crisis event (Korner, 1970 cited in Tracy, Fowler, & Magarelli, 1999).

c) Spiritual Support

As religion is a dimension and a part of spirituality, the perspectives of THI family caregivers (25%) were concerned with the role of religion. Some of them pray to Buddha. This is a traditional Thai belief. They believe that Buddha has power. Moreover, Thai people also believe in the miraculous powers of mediums who can communicate with spirits. In the same way, the Muslims pray to Allah and Mohemhed who is their religious prophet. They pray for the THI victim's prognosis, signs and symptoms to get better in the future. It can be seen that in the life styles of the majority of Thai people, a religious prophet or miraculous powers constitute significantly in their faith. In addition, the family caregivers pledged that if their family members got better, they would make offerings. The following excerpts reflected this point:

"I pray to God for him to have an early recovery. I pray that he does not have a brain disability and that his recovery will be the same as normal people." (Caregiver ID 27, wife, Buddhist)

"I think of Allah who protects us. If he gives the life for my son, he should lead my son to survive. I think of God and the physician. All of them can help my son survive." (Caregiver ID 31, mother)

"I pledge that, if my mother recovers and is the same as before I will thank Buddha by making offerings. Now my mother looks like a child. My nephews and nieces pledge to one's at father of Chalong Temple. They will make offerings of firecrackers and cover an image of Buddha with gold leaves. In my mother's family, they believe in the miraculous powers of their ancestors deceased. If my mother recovers, we will offer some food for them." (Caregiver ID 39, daughter)

The belief in the miraculous power of a deceased grandfather or grandmother is characteristic of a Buddhist is belief in the spiritual world. They believe that after their grandfather and grandmother die, their spirit lives on the spirit world, and to protect their grandchild or any family member who has difficulties.

Moreover, some of the family caregivers believed that the magic powers of holy images would increase the victims' symptoms especially the power of Buddha. In Phuket, the patriarch abbot head monk of Chalong Temple is very famous and people usually asked for his help. He has been dead a long time, but his image lives on in the temple. Hill and Pargament (2003) presented that someone who perceived a sense of closeness to God appeared to be valuable to people in stressful situations. This leads people to have better psychological adjustment when facing a variety of major life stressors (Tix & Frazier, 1998).

In addition, in the Islamic context, people achieve piece of mind through the belief in the "Oneness of Allah" and the application of Qur'anic, the practice and guidance of the Holy Prophet Mohammed. They belief that the Oneness of Allah gives people life and at the same time, it helps people in a crisis. The Prophet Mohammed said, "...Allah did not create sickness, but the has created a treatment for it, accept for old age" (Rossocl, 2000

cited in Hooi, 2002: 36). Herschel (1951 cited in Baumann & Englert, 2003) described religion as a factor that leads the family caregivers to feel that they are not alone.

It can be seen that the family caregivers believed in the magic formulas from the monks to cure THI victims. This phenomenon is often found in Thai culture, particularly in rural areas. The following quotation illustrates this point:

"I respect a Buddhist monk. My family always receives some help from him. He is Luanpo Dang. He uses a magic formula or a magic word to cure and help my sister. He told me that my sister would be better. He will help us. My family members feel well, because we have all used his cures, and we are okay. He told me that my sister will be the same as before. She can walk in the future. We respect him. So I think my sister will be well." (Caregiver ID 43, older sister)

This example shows one of the belief-based methods that family caregivers used to cope with the event. Most of them feel that spiritual support can help them to have hope and feel well when they are confronted with problems. They believe in the magic formulas created by monks. This is another strategy of spiritual support that is found in Thai family caregivers. Their belief in a higher power, this is their psychological support. This finding was consistent with Thai Buddhist family caregivers in serious mentally ill cases. Sethabouppha (2002) found that Thai family caregivers believed in magical acts or spirits as another choice for treatment. To this point, Rammohan, Rao, and Subbalakrishna (2002) recommended that religious coping is an emotion focused coping strategy. Its use has been linked to increases in the family caregivers levels of well-being and helps to reduce distress. Furthermore, spiritual beliefs provide an important source of hope.

In summation, spiritual coping strategies are synonymous with religion beliefs, because they influence thinking and family caregiver life style. Baldacchino and Draper (2001) pointed out that if people have effective spiritual coping strategies, this may help individuals to find the meaning of the illness, resulting in self-empowerment to cope

with the stressful event. The dimension of their relationship with God, may help the individual to transcend beyond the self to reach for a higher power. It is helpful in stress adaptation, improve the family caregivers' health status, promotes the family caregivers in maintaining healthy level psychological well-being, and decreases the effects from negative events (Young et al., 2002 cited in Tanyi, 2002).

d) Acceptance

Acceptance is another of the family caregivers' coping strategies. They accept the fact of the accident, however, the victim's prognosis may be good or bad. As they know that this THI event is beyond their control, the only way they can cope and make themselves feel better, is to accept the situation. This feeling is illustrated by the following examples:

"I accept what he is now. Whatever will be will be" (Caregiver ID 29, wife)

"Everyone in the family should accept this event. If we can not accept it, it will have an impact on our minds. We will feel unhappy if we do not accept this. Now we should accept it, because anyone could have an accident. That's up to them, sooner or later." (Caregiver ID 31, mother)

In the present study, 20% of the family caregivers showed acceptance of the injury. They may demonstrate a more problem-focused than emotion-focused coping strategy. The THI family caregivers in the present study accepted all the evidence, even that which indicated that the result from the THI, may cause the death of their family members. They felt that they could not change the situation and accepting the reality may be a good way for them to preparing themselves to deal with future events. This finding was similar to Almberg, Grafstrom, and Winblad (1997). They found that dementia family caregivers used acceptance as one of their strategies to reduce strain. Moreover, acceptance of reality led to increases in the family caregivers' strength (Matocha, 1992).

According to Reed et al. (1994) a realistic acceptance is adaptive and is basic in coping when people are confronted with a severe and acute illness. Realistic acceptance may be one way to cope with results that are negative, as people believe that this is the best alternative in order to decrease their stress. Heim (1988 cited in Schussler, 1992) mentioned that “acceptance of the illness, combined with mild denial, make such competence with the corresponding cognitive and emotional coping strategies possible and leads to emotional stability.”

e) The Use of Medication to Reduce Tension

We know that THI is a serious stress event for family caregivers. After they are confronted with this serious event, it forces changes on them in several dimensions as discussed above. This stress leads the family caregivers to having difficulty falling or staying asleep. One way we can help them is to rest by medication. The results from the study showed that some family caregivers took medication to reduce tension. The medication they used were painkillers to reduce their headaches and a sedative drug to aid sleep, as several examples will show below.

“I think a lot. I am very stressed out. So sometimes I take a painkiller for my headache.” (Caregiver ID 20, wife)

“Sometimes I use a tranquilizer. I try to sleep, but I can’t sleep. So I use the medicine.” (Caregiver ID 24, mother)

After the suddenness of a THI victim’s hospitalisation, family caregivers are confronted with tremendous emotional strain and life style disruption. Some of the victims were further separated from their families due to the victim’s severity of neurological dysfunction. Some of them may be unable to respond to family members in any way. In this instance, the victims may appear dead to the family. Moreover, the major cause of the THI cases was motorcycle accidents. This may result in legal and financial problems for the family especially if the victim is the head of the household. All of these factors

lead the family caregivers to worry about how they should deal with this crisis event. The family caregivers get headaches and have difficulty sleeping. These reactions are signs of the family caregiver's depression and may lead to increased risk of illness (Vitaliano, Zhang, & Scanlan, 2003). Finally they used medication to help release tension. Similarly, Marsh et al (1998 cited in Harris et al., 2001) found that THI family caregivers use both prescription drugs and non-prescription drugs for releasing their stress. Moreover, Oddy et al. (1978) and Panting and Merry (1972 cited in Sander et al., 2003) found that the family caregivers in severe THI cases use anti-depressants or minor tranquilizers at an increasing rate. In a critical illness, if the family caregivers cannot sleep for a long time, they may suffer and their health later deteriorates. This finding is also supported by the quantitative findings in Chapter IV. In this sense, the participants had problems in psychological general well-being, family functioning and increased risk of ASD.

In summary, the family caregivers in the present study used more predominately emotion-focused coping methods in the initial stages of injury. The result is supported by Lazarus and Folkman's (1984) concept, that in stress situations, people use a combination of both problem-focused and emotional-focused strategies.

5.1.7 Resources That Family Caregivers Use to Deal with THI Victims

THI is a critical illness that leads the family caregivers to suffer from increased stress. If they have resources which can help them to have a positive outcome in their coping strategies, they will cope better. This pointed out that family caregivers needed support while giving acute care to THI victims. It is a difficult time for the family caregivers. They may feel alone and out of control, powerless or helpless to assist their loved one in this critical situation.

The present results showed that the resources for dealing with THI available to caregivers were provided by social institutions in the forms of formal support, and informal support. Social support is the assistance the family caregivers receive from

other family members, friends, or other family members. Dunst et al. (1989 cited in Williams, 1991a: 300) defined social support as "... a multidimensional construct that includes physical and instrumental assistance, attitude transmission, resources and information sharing, as well as emotional and psychological assistance." The results showed that the resources for social support, which the family caregivers used to deal with stress were focused on emotional support. Formal support is defined as the assistance provided from professionals, especially the physicians' answers as to the victim's prognosis. Informal support can be a self-help group or another support group. All of these will be discussed as below.

Formal Support

Formal support, received from health care professional is important for family caregivers. As this type of injury prognosis is uncertain, it is sometimes very difficult to predict the outcome. The information gleaned from professionals helps the family caregivers develop appropriate coping strategies. The example below illustrates this kind of formal support.

"I have more hope in his prognosis although it will take a long time for recovery. The doctor tells me about his symptoms everyday. I think if I have some problems, I can usually consult with the physician." (Caregiver ID 19, mother)

The results showed that only physicians and or health care providers gave formal support for family caregivers to confront the THI event. Because at the initial time of hospitalisation, some of the THI victim's prognoses were 50-50, the family caregivers felt that the explanations of the physicians regarding treatment, the victim's prognosis, and survival rate were important for them. It can be seen that the physician interaction helps the family caregivers to become more comfortable and can develop a sense of competency for their caregivers role.

Informal Support: Self-help Group or Support Group

Support groups or self-help groups are another resource, which can help the family caregivers to re-appraise the situation and to obtain the appropriate coping strategies. It helps the family caregivers to have the opportunity to share feelings, resources, social needs and so on. In addition, families receive advice from other family caregivers or family members who are confronted with similar experiences. This can lead the family caregivers to more easily express their experiences or their problems. They can seek and provide sympathy to each other. In this regard they have the benefits of emotional support from a self-help group. The following account reflected this point:

I get some help from another THI family caregiver. Sometimes she sees that I can't do some activities for my husband, she helps me and teaches me how to care for my husband. The first time, she taught me how to do a bed bath, how to make the bed etc. After that, I would do it by myself, and she said that it was okay. She said " You don't worry. It is the same as me at the first, I couldn't do anything. Some of nurses taught me but they have many patients and they can't stay close to me all the time. Sometimes the caregiver in the next bed helped me, taught me. Now I can do many activities by myself". I feel good, after we talked together about the patients. At least it leads me know that there are some people the same as me." (Caregiver ID 27, wife)

One of the interesting points, in the present study is an introduction that health care providers did not organize the support group. In contrast, it was the natural organization of THI family caregivers. Previous studies reported that self-help groups were very useful for THI family caregivers. According to Halm (1991 cited in Harvey et al., 1995), family members perceived a support group as having benefits for them. This type of group support facilitates family caregivers to improve their knowledge and understanding of the victims' injuries, ability to share feelings, reaction anxiety, and improve the perception of hope. Finally the family caregivers are feel better (Acorn & Roberts, 1992), and found that support groups help the family caregivers meet their needs (Campell, 1988).

Clearly support groups during an acute injury, especially in THI victims, are essential. Family caregivers are confronted with unexpected and potentially life-threatening events. The family caregivers may be exhausted from their caregiving role. As most of the previous research suggested, social support act as a stress buffer and helps with the family caregivers' psychological adjustment (Grossman, 1995, Lazarus & Folkman, 1984; Lindgren 1990; Tungpunkom, 2000; Williams, 1991a; Williams, 1991b). We can say that the results from the present study shows three types of functions of social support which are distinguished by Schaefer et al. (1982 cited in Lazarus & Folkman, 1984). They consist of emotional support (such as spiritual support), tangible support (informal support such as support group), and formation support (which means the formal support from professionals). Lazarus & Folkman (1984) concluded that social support is the social environment supplying resources for coping competence. It contributes to the family caregivers adjustment and well-being (Meister, 1991). In addition, Harvey, Dixon, and Padberg (1995) suggested that health care providers should offer support groups to families of trauma patients as early as possible in their hospital experience.

5.1.8 Resources for Assisting the Caregivers Role

The present study's findings showed that at the initial stage of injury, there was only one resource available to assisting the family caregiver. It was the information and training in how to provide care for the THI victim. THI may lead victims to suffering from chronic disability. Some of them may stay remaining a long-term vegetative state or need partial care from their family caregivers. Thus the family caregivers responded that one resource, which assist them with the caregiver role, is the information they are provided with following their relative's head injury. Moreover, they perceived that they should have the skills necessary to care for the THI victim. While the THI victims were hospitalised, they were pleased to care for their family members, but they also experienced fear and doubt as THI victims rely on invasive equipment. Family caregivers faced a catastrophic injury with which they have never had to deal with, are thus unprepared in how to care for THI victims, especially the demands of daily care. In

the long-term, the responsibilities of all caring activities will fall on the family caregiver, thus they feel significant concern. The following accounts reflected this point:

“It is very important that I know how to care for him. For example, how to bath him. How to move him. How to do the bed. Nurses teach me skills, which I can apply in his daily living. All of these can help me to care for my son and I proud to fill the caregiver role.” (Caregiver ID 19, mother)

“Nurses teach me how to care for him. It helps me a lot for training while he stays in hospital. I think I can do it after he is discharged from hospital. There are many activities for caring. At first the nurses taught me how to bath him. How to do the bed. How to clean his body. How to clean his face. Moreover, I help him to exercise his right arm and leg. This can help me a lot in caring for him at this time and in the future.” (Caregiver ID 27, wife)

As these two examples show the knowledge of caring procedures is very important for the family caregivers. Grinspun (1987) recommended that education is essential in preparing the family caregivers for their future tasks after THI victims are discharged from the inpatient department. In this regard, Smith (2002) advised that teaching the family caregivers could lead families to feel more secure in their role and to ensure their ability for look after THI victims in the future. In addition, well-prepared family caregivers are the keys to successful outcomes for victims (Dring, 1989).

In summary, during hospitalisation, the knowledge and skill for providing assistance to THI victims who were having difficulties with daily activities because of physical, cognitive, behavior, or emotional impairments are very important resources for supporting family caregivers. This leads the family caregivers to better deal with their new roles. Moreover, the family caregivers may have a positive response to caregiving. If the family caregivers have a negative response to caregiving, this may interfere with the ability to provide care, psychological well-being and health.

5.1.9 Conclusion

Family caregivers considered THI as a serious injury that can lead to brain damage. The outcomes for the THI victims may represent mild, moderate, or severe disability, or in the uncertainty progressive such as deterioration and even death. Based on the onset, THI is acute, but the result interferes on the family as a whole for a long time. The family caregiver's perception of the memory of the illness is important for health care providers to know. In addition, the family caregiver meanings of illness refer to their stress, coping strategies, and caregiving practices. As discussed earlier, Chesla (1988 cited in Tungpunkom, 2000) found that caregiving practices were derived from the family's meaning of the illness of the families.

Most THI victims in this study had prolonged hospitalisation. In addition, the majority of victims were young adults (mean age was 34.4 years). They were healthy before the injury and the sudden unexpected nature of the THI may be a heavy burden on the family members, family functioning and the family's psychological well-being. This study showed the experiences of both of caregivers to both moderate and severe THI. This ASD is a new psychiatric diagnosis of anxiety. It has the power to predict and identify those prone to develop to PTSD. Health care providers should pay attention to this phenomenon. The findings that were supported by the several studies indicated that THI affects both the individuals who sustain the injury and their families.

Moreover, the present results showed that most family caregivers were pleased to take on the role of caregiver. They gave four reasons: 1) they did not trust other persons, 2) they felt a strong need to be close to their loved one following the injury, 3) family commitment, and 4) they felt no one else could take this role. These findings indicated that family caregivers and victims had a type of bond, because all of them had a blood relationship.

The most immediate impact on family caregivers reflected financial problems. This result is consistent with findings from earlier studies showing that financial issues were

reported as the most serious concern for families. It is also clear that THI impacts on family caregivers' psychological, physical and mental health. The family caregiver role, decreases that person's leisure time, and may result in the loss of the sense of family. Thus, THI disturbs the family caregiver with both subjective and objective burdens.

In terms of coping strategies, the evidence suggested that the family caregivers used both problem-focused strategies (i.e: confronting the problem and seeking information) and emotion-focused strategies (ie: Thamjai, spiritual support, acceptance, and medications to deal with the situation), emotion-focused strategies were heavily influenced by Buddhist principles such as Thamjai, to make up the mind, Karma. This point is different from the Western research findings, because Buddhism is Thailand's dominant religion and its principles guide how people should live. It is interesting to note that family caregivers spiritual coping strategies, which employed religion as a stress, buffer. Family caregivers believed in the power of Buddhism, so it can be conducted that religion based on Buddhism plays a more significant role in Thai family caregivers' daily lives. However, family caregivers used a combination of both problem-focused strategies and emotion-focused strategies to deal with stress.

Finally, the family caregivers used social support; both formal and informal support as resources to deal with the THI. Discussion and recommendation regarding social support will be discussed in Chapter VI. This section has focused on the views of how THI impacted the family caregivers in Time 1. The next section will present the qualitative findings of Time 2.

5.2 Qualitative Findings in Time 2

This section outlines the interviews from the 34 family caregivers. I was able to interview participants at six months after the initial interview. As outlined in the previous chapter, there were 11 family caregivers excluded from Time 2 interview; 8 family caregivers could not be contacted, and 3 THI victims died.

The focus of the follow-up interview was to explore broadly how life had changed for the family caregivers, what were the impacts on the family caregivers, their coping strategies and resources. The themes and the association sub-themes are presented in Table 27.

Table 27
The Themes in the Findings

Themes	Section
The meaning of “head injury”	5.2.1
<u>Sub-theme</u>	
- Cause of the disabilities	
- Severe injury	
- Hard and tiring	
- Distress event	
- It can improve	
The sources of distress for caregivers	5.2.2
<u>Sub-theme</u>	
- Lack or slowness of victims’ recovery	
- Financial problems	
- Caring dimensions	
- Victim’s reaction	
- Decision-making	
The impact	5.2.3
<u>Sub-theme</u>	
- Financial problems	
- Disturbance of the family caregivers daily living	
- Decrease in leisure time	
- Family caregivers’ psychological and health problems	
- Impact on the family caregivers’ work	

Table 27 (Cont.)
The Themes in the Findings

Themes	Section
<ul style="list-style-type: none"> - Loss of social interaction - Impact on marital relationship 	
Coping strategies	5.2.4
<u>Sub-theme</u>	
<ul style="list-style-type: none"> - The use of sedative drugs - Hope - Thamjai * Changing attention * Seeking spiritual support 	
Resources for dealing with the THI	5.2.5
<u>Sub-theme</u>	
<ul style="list-style-type: none"> - Family members - Friends - Inspiration 	
Resources for assisting the caregiver role	5.2.6
<ul style="list-style-type: none"> - Home health care - Rehabilitation unit - Financial support - Specific knowledge for caring for THI victims changes 	

5.2.1 The Meaning of ‘Head Injury’ to Caregivers

THI leads victims to have residual disability such as physical changes, psychological changes, behavior changes, and emotional changes. The family caregivers continued the role to meet the needs of the victims six months later. When the time comes, the family

caregivers perceived a different meaning of the term head injury based on their cognition and re-appraisal. The present findings showed that there are five themes of the meaning of head injury that emerged from the data: a) cause of the disability, b) severity of the injury, c) hard and tiring caring activities, d) distress event, and e) it can improve.

Cause of the Disability

During the follow-up six months later, 20% of the family caregivers explained the meaning of head injury as the cause of the victims' disabilities. These disabilities impacted on the victims' daily living. They could not serve their needs, especially those in vegetative states. One of the family caregivers made the following claim.

“The person whose signs and symptoms meet the criteria for operating I think her survival rate is 50-50. Her opportunity to improve is difficult. But she/he has that opportunity too. But it is 50-50. So I feel if she dies, it is better. When I look at the person whose brain was operated on, I feel not so good. The same what happened to me. I think about my wife after she was operated at her brain, she only sleeps on the bed. She can't go anywhere. She can not do anything. More than eighty percent can't live in the normal state, the same as before” (Caregiver ID 32, husband).

Moreover, some of the victims were not in a vegetative state, but the residual problems of emotional, cognitive, physical, and psychological changes as shown in Table 28.

Table 28
The Change in THI Victims at Six Months (n=25)

Disability	n	%
Cognitive	16	64
Emotional	12	48
Behavior	11	44
Physical	5	20

Note: One victim may have more than one disability.

These disabilities also impacted on the victims’ ability to return to their work. The family caregivers gave the meanings of head injury meaning as shown in the following examples:

He can’t speak. I think he may continue in this state. [vegetative state] My husband told me that at this time of THI, our son has residual disability”. (Caregiver ID 33, mother)

In both examples above, the victims had a severe THI. The results caused both of the victims to be in a vegetative state. Both of them were young adults. After THI, they could not return to work, because they had memory loss and personality changes. They could not communicate with other persons, and could not do daily activities by themselves. They were living their lives as different people. The findings showed that the victim’s residual disability was one issue that the family caregiver was concerned about. Most of the family caregiver’s concern was about the victims’ physical changes, emotional changes and cognitive changes. Cognitive impairment often limits the victims returning to previous employment, training and lifestyle (Head West, 1996b;

Hemingway & McAndrew, 1997; and O'Neill & Carter, 1998). The present finding was consistent with a similar study by Hendryx (1989). The result showed that after THI, the victims displayed more physical deficits and cognitive changes than emotional ones and that are more likely to be acknowledged by family members. Armstrong (1991) reported that the victim's cognitive and behavior changes often prove more difficult to their family caregivers than any physical disability. As well, emotional changes are related to the cognitive changes resulting in behavior problems. Prior and Sawyer (1999) found that post THI, all victims sustain behavioral and personality changes. These disabilities may appear for may over the short term or long-term. This is a big barrier for the victims' social adjustment. Thus, the result from this study found that the family caregivers paid more attention to the victims' cognitive deficits.

A Severe Injury

As mentioned in Time 1, some of the family caregivers gave the meaning of THI as a hardship illness. In the three cases of severe THI caregivers still felt that THI was a serious injury, they had the experience of dealing with this problem for six months. The results from THI impact on the victims in many dimensions and require a long time for rehabilitation. Two examples are given below:

"I feel THI is a terrible experience for me. It is a severe head injury. If the injury was not injuries another part of the body, it would not be as severe. If the injury was at another organ, I would not worry the same like this". (Caregiver ID 28, older sister)

"I feel this THI is very severe. An injury at the head is severe. His memory is not well" (Caregiver ID 38, wife)

A hallmark of THI is a loss of consciousness. Moreover it leads the victims to have many disabilities. Previous studies presented that 30 to 40% of THI victims stayed in reduced states of consciousness for prolonged periods (Hauber & Testani-Dufour, 2000). One-third of the victims cannot return to previous employment especially in the

six months following THI (FAC, 1999a). In addition, Hardgrove (1991) found that THI family member's meanings of THI was as a horrible thing to go through. Thus, it is not surprising that the present study family caregivers gave the meaning of THI as a severe injury.

Hard and Tiring Caring Activities

The residual disability from THI forces the victims to live with changes. Moreover, it impacts on the persons who take on the role as the family caregiver. Some of the victims need to be dependent on the caregiver, some of them need help from partial caregiving. Both forms of care are the family caregiver's responsibility. In addition, the caregiver role is a new experience for them. This finding is consistent with the quantitative finding data about the family functioning in Time 2. It showed that six months after injury the mean score for family functioning was still high (See as Table 3). There is on also impact on the family caregiver's psychological well-being based on the caregiver's burden. Family caregivers perceived the meaning for THI are being hard for them to face and they feel tired. As two anecdotes demonstrate:

"Sometimes I feel tired. He does not know anything. I should give him intimate care. So I am very tired." (Caregiver ID 36, wife)

"The first time after he returned home, I felt very depressed. He has residual disability from THI. He can't understand. He usually wakes up during the night and is frightened.....It is difficult for me to care for him. He voids on the bed sheet and the mattress padding every night. I feel very tired from these activities, because I wash the sheets and clean a lot each day". (Caregiver ID 5, mother)

In the second example, the family caregiver dealt with the victim's daily living activities and it increased her housework. At the same time she should maintain her motherly or wifely responsibilities to other family members. Based on the victim's injuries he or she may a cognitive deficits combined with behavioral and emotional changes. The victim

requires consistent care. In the night time, the victim's sleep patterns were changed. He usually waked up in the night, disturb family caregiver's sleep. During day, the family caregiver spends all of her time caring for him. This led the family caregiver to feel tired and it was hard for her to deal with this for a long time. This finding was also confirmed by the quantitative results in Chapter IV. The results showed that in Time 2 the family caregivers were still dealing with family dysfunction. Grinspun (1987) reported that neuropsychological sequelae were felt to be a much heavier burden. In addition, Martin et al. (2002) mentioned that victim' neurobehavior impairment was significantly correlated with family caregiver burden. This impacts on the family caregiver's quality of life.

Distress Event

When victims came home from the hospital for their rehabilitation phase, the rest of the family members received him or her thankfully. However, some of the family caregivers still had the sense of not quite knowing what it was going to be like and what was their prognosis going to be especially one who was in a persistently vegetative state and had a memory deficit. Family caregivers deal with enormous subjective and the objective burdens. Moreover, Thailand has no affordable services along the continuum of care after victims are discharged from the hospital. The life after the victim's discharge is the family caregiver's responsibility and thus leads them to feel distress in their everyday role. They have the same activities while the progress of the victim's recovery is the same as everyday or have the slow recovery. As one of the family caregivers said:

"Sometimes I feel bored. I have the same routine. I feel tired and daunted. I only live with him. Sometimes he cries, to give a loud noise and cry. I feel very bored. I have the idea that I am too far away from him. I do not need to care for him. But that is only my short distress feeling." (Caregiver ID 26, wife)

Living with a chronically ill relative is a major cause of family caregiver burden. This negative feeling affects the family caregivers psychological well-being, because the

situations with which they live is stressful. Thus, some family caregivers gave the meaning of THI at six months as a distress event.

It Can Improve

The four meanings of THI, which the family caregivers defined, were all negative meanings. However, there were three family caregivers (12%) that gave the meaning of THI at six months later as an improvement. All victims had the 2 to 3 RLA and were defined as severe THI at the first time of their injury. Six months later, some showed good recovery from their injuries, so some family caregivers had positive feelings as mentioned below:

“Now his THI is okay. I feel happy. He is better. He can help himself nearly the same as normal. However, he needs some of my warning for his exercise”. (Caregiver ID 3, mother)

“I expect he will get better day by day. First, he can’t walk, but now he can walk. His hands can’t hold anything, now he can hold anything. He can remember some of the past events.” (Caregiver ID 19, mother)

From the examples, these groups of family caregivers measure THI improvement as victims’ progress in their cognitive domain and what they can do of their daily living activities, although they still have some residual disability. When they compared the first time of the injury and six months later, there was a clear improvement in self-help. Thus, six months later, THI was give a positive meaning. This result is consistent with Orto and Power (1994). They reported that if the victim can recall during post-injury, this could provide a sense of satisfaction that can stimulate hope and optimism during the recovery period. These findings support the data from Time 2 where the PGWBS scores were defined as positive well-being.

In brief, in the six months follow-up, most of the family caregivers (88%) still gave the meaning of THI as the negative meaning. Interestingly, a few, (12%) of the family caregivers, had a positive meaning about THI because their victims had a good recovery and the family caregivers are accepting their new family and lifestyles. Nolen et al. (1990 cited in Ayres, 2000) mentioned that burden in caregivers was related to the family caregivers meanings of the situations which they confronted. Corbin and Strauss (1988 cited in Ayres, 2000) described the process of making meaning as a component of living with chronic illness. Thus, Livingston and Brooks (1988) and Schussler (1992) suggested that knowing the THI victims' relatives' perceptions of the meaning of illness leads health care providers to understand relatives' responses to an illness when they are confronted with stressful events and health care providers can give the appropriate intervention to them.

5.2.2 The Sources of Distress for the Family Caregivers

A wide variety of studies reported that THI leads the family caregivers to suffer high levels of distress during the times they deal with the caregiving role; however, most of them were studied in the Western culture. In the present study, I will explore the sources of distress for caregivers at six month in the Southern part of Thailand.

From the findings in Time 2 of the study, there were five sources of family caregiver distress identified: 1) lack or slowness of victim's recovery; 2) financial problems; 3) caring activities; 4) victim's reaction; and 5) decision-making.

Lack of or Slowness of Victims Recovery

As with the results showed that most of the family caregivers (88%) gave a negative meaning of THI, because most of them still had residual disability, and the nature of THI recovery takes a long time in the rehabilitation phase. Twenty percent of the family caregivers concerned about the victims' prognosis that the victims' opportunity return to their normal life as the same as normal population. The victim's prognosis was also

related to other problems such as financial problems, uncertainty about the family's future, or caring activities. The quotations below illustrate the victims' prognosis as the sources of family caregiver distress.

"She can't do anything by herself. I feel very stressed out. I think about the future of my family and my children. Now I stop my work to take care of her, so I think a lot. My children are young. All of them are studying. All of this is a heavy burden. For her, she is not improving. She is the same. So I feel very stressed." (Caregiver ID32, husband)

"Sometimes when I sit alone, I feel tired, daunted and stressful. When I talk with him, he can't talk with me. I think why and how long must I wait for his recovery? When will he be better? The time I spend waiting for him to get better causes me to get more stressed." (Caregiver ID 26, wife)

Family caregivers that wait for THI victims' signs of improvement increase their stress, because they are dealing with the uncertainty of the prognosis. Zeigler (1999) reported that the unpredictable behavior of THI victims leads the caretakers to have a difficult time.

Financial Problems

Most of the THI victims' were employees. For their long recovery period, the family used a large amount of money to look after them. Some of the victims are the main sources of family income. After THI, they cannot return to work, so this impacts on family income and family members' living. As the second time of study indicates, 38% of the family caregivers had difficulties associated with this problem. The following examples present the financial problems as one of the sources of family caregiver distress.

"In the past, my husband had 200 to 300 baht per day, based on the number of passengers, while I sell sweet meat for 100 baht per day. I did not buy other things. He bought the food for eating. I do not support him in this area. But now we need the money. I can't buy anything to eat or buy something the same as my friend. I should save one baht, two baht each day. Eventually if he stays sick, I don't know where I can get money." (Caregiver ID 27, wife)

"Stress, because I have two responsibilities: my children's education and my husband. My family is poor. I don't know what to do. I should struggle for my family living. It is a little better now because I get a job that can support my family." (Caregiver ID 45, wife)

Some of them have debt following the initial stage of the victim's injury. Two of the family caregivers still deal with this problem six months later. One example shows the following:

Money is my problem because only my husband supports the family. I still have 6,000 to 7,000 baht debt. I raised it when my son stayed at the hospital". (Caregiver ID 15, mother)

From the above quotes, the results show that financial problems are a significant source of family caregiver distress, especially if the THI victim is the family leader. This is one of the dimensions of family functioning. In Time 2 the quantitative findings also presented evidence of family dysfunction. This problem is related to all family members. This finding was supported by Testani-Dufour et al. (1992). They found that financial problems impacted on THI family caregivers not only in the initial stage of hospitalisation, but also in the long-term because most THI victims and the family caregivers are dependent on current employment for income. Some of them are without enough money to meet basic needs (Hall et al., 1994). Moreover, the majority of THI victims are heads of households who take on the role of husbands and fathers. That means the families are affected by the loss of income more than when a wife or mother

is injured (Willer et al., 1991). Thus, Jacobs (1987 cited in Cavallo, 1997) and Courtney (1997) concluded that in the long term, financial issues were a concern for all caregivers. Montgomery et al. (2002) reported that 30% of families suffer a deterioration in finances, especially in the low socioeconomic status families, and these financial difficulties can be a significant source of family distress. (Sander et al., 2003).

Caring Activities

Six months after injury, the THI victims were in the rehabilitation phase. All of them still had residual disability. Some of them were in need of wholly compensatory care while some of them needed partly compensatory care from their family caregivers. However, all of them needed the care from the family caregivers especially in their everyday living activities, especially the cases which needed dependent caring. These caring activities are difficult for them. Family caregivers felt that they could not do some activities alone, such as taking a bath. The following examples elaborate the family caregivers' distress from caring activities.

"I can only bath once. He can't walk. I have stress. He can't hold anything and he can't eat by himself" (Caregiver ID 26, wife)

"I feel stress for caring for her. I can't do it alone, because she can't walk, and can't sit. Her knees are weak." (Caregiver ID 1, mother)

Besides the activities of daily living, the family caregivers failed to understand or to know the THI victims' needs, especially when the victim was in a vegetative state. Communication is another source of the family caregiver distress. One of the family caregiver felt that she could not be respond to the victim's needs. One family caregiver said:

"I can't respond to his needs. I don't know what he is thinking, what is his need? Sometimes he cries, sometimes he talks, but I cannot understand. I don't know."
(Caregiver ID 26, wife)

Caring for a victim who is in a vegetative state may lead the family caregivers to feel stressed. Because of their communication impairment the family caregivers cannot support all of the THI victims' needs.

Victims' Reactions

Previous research has reported that after THI, victims to have ongoing disabilities: cognitive changes, emotional changes, behavior changes, and physical changes. Some of them may have all four changes or some of them may have one to three changes. Family caregivers deal with the victim's changes day after day. These changes lead the family caregivers to feel stress. In the present study, after following for six months, they found that 64% of victims had cognitive deficits, 48% had emotional disturbances, 44% had behavior changes, and 20% had physical changes (See as Table 28). This will be discussed in the following section.

Cognitive Deficits or Cognitive Changes

This change is the most common in THI victims, particular in the moderate or severe THI cases. Some victims have poor memory or memory loss, short attention spans, and inability to plan or make decisions. These are big obstacles for returning to work or living independently. These changes lead the family caregivers to feel more stressed than during other disabilities, as the family caregivers should give proximity care to victims. The following examples present the family caregivers' distress from the victims' cognitive deficit.

"In my mind, I would like him to be the same as other people. Sometimes he can remember, sometimes he forgets. He is neurotic. Sometimes I think if he dies, I am not

too sad because it is very hard caring for him. This may lead him to being unable to return to work forever. (Caregiver ID 15, mother)

"She can't take care of herself. I feel stress. If I stay with her all day and all night I will be very stressed out.In her condition sometimes she looks like she does not know anything, but sometimes she looks like she knows. She can't speak."
(Caregiver ID 32, husband)

Cognitive deficit causes the victim to have communication problems with the caregiver. In addition, some of them were in a vegetative state. Family caregivers spend most of their time for in intimate caring. In some cases the victim could walk, but had memory loss. They still need good care too. That led the family caregivers to lose their free time for caring. That means the family caregivers were stressed out during the day and night. Moreover, the family caregivers were also concerned that the victims could not return to work. At the six months time point, the victims still had cognitive problems (64%). In this regard, Dombovy and Olek (1997 cited in Chesnut et al., 1998) reported that one-third of THI victims were cognitively impair and were unemployed six months after discharge. Kersel et al. (2001) found that most THI victims displayed cognitive impairment in the area of general intelligence, perception, and other aspects of attention and executive functioning.

Emotional Disturbances

In the present study, 48% of THI victims had emotional changes. Some of them had emotional volatility: intense mood swings or extreme reactions to daily situations, such as angry outbursts, depression, talkativeness, or laughter. Family caregivers should understand the victims' neurological damage after a head injury. Some of them felt that it was very difficult to deal with the victim's intense mood swings. They could not approach the victims to calm them down or control their reactions. Some of victims have intense mood swings. They drive a motorcycle. This causes the family caregivers to feel anxious because they fear that the victims may get into another motorcycle

accident. Therefore, they felt very stressed from the victim's emotional liability. The examples will be shown below:

"He is easy to irritate. His mood changes easily. I should speak carefully with him, explain the situation to him. I feel he can't control his emotion. I can't calm down his emotion. I don't know what to do." (Caregiver ID 3, mother)

"...If he is unsatisfied, he will give out a sigh and cry. I feel very stressed if he has this reaction. In this event, I feel I lose heart. I am very stressed and upset. When he exhibits this response to me, I feel very stress. I should count the number from number one again or count to zero again. I don't know how to explain this. Normally I feel tired at this time. I feel more tired after this behavior." (Caregiver ID 26, wife)

Emotional change is usually related to victims' behavior, which the researcher will present in the next topic. However, this finding was confirmed by McKinlay et al. (1981). They reported that THI emotional changes increased in six months following the injury. Florian, Katz, and Lahav (1989) and Sander et al. (2003) found that THI victims' emotional changes related to the family members' perceived stress, especially victims' mood swings (Perlesz, Kinsella, & Crowe, 1999).

Behavior Changes

As mentioned above, behavior changes usually include the reaction combined with emotional changes. From a six-month follow-up, 44% of the victims had problems with uncontrolled behavior resulting from brain damage. Greve et al. (2001) mentioned that THI victims had a personality change, especially problems with aggression and impulsive behavior, and this change is usually found in severe THI cases.

In the present study, some of the victims had aggressive behaviors, inappropriate expressions of affection, impairment of judgement, or frustration. Family caregivers felt

it was difficult for them to deal with this behavior. The quotations below illustrate the uncertainty of victims' behavior changes.

I feel very stressful. He is very aggressive. He doesn't listen to me. I asked him not to go outside. He said I obstruct him. He said he will commit suicide. I don't know what to do. Sometimes his father said he is very obstinate. His father feels very tired, because he works hard. He complains. I feel not so good and I am stressed out about his aggressive behavior." (Caregiver ID 42, mother)

"He is very quickly upset and irritable. I do everything based on what he needs. If he needs something, he feels he should receive that thing. If no one looks after him, he will hang himself. Sometimes he uses a knife to cut himself, hit his siblings, mother or father. At that time he can't remember everyone. When the time passes, he comes back and begs for forgiveness. So sometimes I think if he was dead, I would not feel very sad to deal with his loss. In contrast, sometimes I re-think if he is in this state that is okay. I hope he will be better one day. Some of my neighbor said my son has suffered neurosis. Because of his difference, I don't mind about this. I only concerned with his behavior changes". (Caregiver id 15, mother)

The results from THI lead the victims to have personality disorders. As the second example showed THI victims' reactions were similar to mentally ill patients. The victim had suicide behavior or hit other people. This led the family to have a stigma. However, the family caregiver perceived the victim's behavior change as a symptom, not a character flaw. Franulic et al. (2000) reported that THI presents more psychosocial adjustment and emotional problems in victims after six months than those in an acute state. Thus the family caregivers of THI survivors go through many stressful times because of the victim's personality, neuro-cognitive, and neurobehavioral changes. All of these changes of THI victims lead the family caregivers to cope with stigma or embarrassment, and were associated with greater family dysfunction.

In summary, the victim's reactions from the result from THI led the family caregiver to worry about their caregiving role. Martin et al. (2002) reported that neurobehavioral impairment of family members were correlated with caregiver burden and led the family caregivers to feel distress.

Making Decisions

In addition to personality and neuro-cognitive changes, the result of THI may also include legal problems. Some of the victims face expensive lawsuits, which their salaries cannot support. In the present study, three family caregivers were confronted with the decision of how to deal with payments. Finally, one of the family caregivers selected the way that the victim could pay back the money by going to prison. However, she was not sure that was a good or a bad decision. When the victims was in prison, she or he felt very stressed. Their family members wait to finish the time of the punishment. This phenomenon is shown by an example as below.

"I feel very stressful about me making the decision that leads my young brother to be in the prison. I pray to Buddha for helping him to get out of prison because the environment in the prison is not good. He cries every time when I visit him. He wants to go home. Before I made this decision I think my father and mother had a burden for caring for him. Someone told me that there is a physician at the prison. I think if he would go to prison he has the opportunity for receiving treatment. My father and mother are not too tired because after discharge from the hospital, he walks all day and all night. Moreover, we have a problem with the money for paying back the litigant in a lawsuit from the traffic accident. I told the policeman that I have no money. The status of the family is poor. The motorcycle repair is 9,000 baht. I think if he is in prison, my family can reduce our stress for caring for him, but in reality I stressed while he was in the prison more than he stayed at home." (Caregiver ID 34, older sister)

From the above information we can see that the influence from financial problems leads the family caregivers make difficult decisions. The dilemma for a victim who is guilty is

to confront incarceration, because the victims motorcycle accident was a legal problem. If they cannot replace the damaged motorcycle, they must deal with incarceration. Mirr (1991) reported that decision-making in the legal and ethical areas was another role for the family caregivers. Hall et al.'s (1994) study mentioned that a THI victim's punishment is one risk of psychological history in the family caregivers. In this area, few studies have explored this source of the family caregiver distress.

5.2.3 The Impact on the Family Caregivers at Six Months Later

Through the six-month following, the family caregivers' responsibilities were in caring for the victims who were the unconscious or who manifested long-term behavioral problems despite apparent cognitive impairment. The major consequences of the effects, in the present study of family caregivers, appeared to have two main dimensions: financial difficulties and changes to the family caregivers daily living routines.

Financial Problems

Since the majority of the THI survivors were young males, most of them were the leaders of the family. Often the THI victims certain out of work due to their residual disability. On the other hand, their families are frequently faced with financial matters, such as payment of family members living expenses, their children's education fees, and extra treatment for victims' rehabilitation. At this time, many families lose the main source of salary income. All responsibility in the household depends on the family caregiver. Some of the family caregivers borrowed money to maintain their living standards and some of them were starved. They could not meet their basic needs. The present finding showed that there were 38% of the family caregivers who felt that the THI victims lead them to have financial difficulties. The following examples illustrated this impact.

"We have a debt problem. I borrowed money from someone, but it wais not much. It was about 6,000 to 7,000 baht. At that time, his father went to meet his sister.

We have no money. His sister said she has no money too. So I told my husband to bring the motorcycle to the pawn shop and bring that money to support my son. My son should have something to eat the same as other people'. (Caregiver ID 33, mother)

"I have a money problem because I stop my work for caring for her. Now only my first daughter supports the money. She just started her work. I have other four small children so someday we have no money, but now we are not in debt. If we don't have money, we starve and we go hungry." (Caregiver ID 32, husband)

As a result, the financial burden has a big impact on the family caregivers. Thirty-eight percent of the family caregivers expressed this view. It does not only disturb family life but it leads the THI victims' families through the debt situation. As Thailand has no special funds to support this group in their daily expenses, the victims cannot return to work. This finding is consistent with the Harris et al. (2001) and Testani-Dufour et al. (1992) findings. They reported that THI family caregivers usually ignore with the financial difficulties in long-term disability. In particular, the low-income families have economic constraints that limit their ability to envision and use alternatives to their own time and labor (Ward & Carney, 1994 cited in Pierce, 2001). Some of them are without enough money to meet their basic needs (Hall et al., 1994). On this point, Sethabouppha (2002) mentioned that financial strain caused the family caregivers to suffer. Some of them lacked money for their daily expenses. This is the most serious concern for the families (Jacobs 1988 cited in Willaims, 1991a). Nelson (1992 cited in Zeigler, 1999) reported that some of the family caregivers, especially spouses expressed that THI results lead them to borrow money and declare bankruptcy. Moreover, lack of money plays a significant role in predicting the family caregiver's psychological well-being. (Douglas & Spellacy, 2000; Moore, Stambrook, & Peters, 1990; Peters et al., 1990). In addition, financial strain may interfere in the marital relationship (Perlesz, Kinsella, & Crowe, 1999). Moore, Stambrook, and Peyers (1993) noted that higher financial problems were associated with spouse dissatisfaction. Furthermore, Hu et al. (1993) reported that financial problems were risk factors indicating disruption of family function.

In brief, long-term financial debts are a big problem for the family caregivers. It may lead the family caregivers to be confronted with other impacts, such as psychological well-being, family functioning, or marital relationship. This demonstrated that financial problems interfere family as a whole.

Disturbance to Family Caregivers Daily Living Routines

During the six months after the THI, the family caregivers experienced significant stress with THI person in the home. Results from THI were 1) physical changes which lead to victim's sensory and motor impairment and gait disturbances, 2) language changes; 3) emotional changes such as loss of emotional control, loss of emotional stability, 4) some of them were dependent on the family caregivers in self-care, 5) memory loss, or 6) disturbed behavior. All of these changes impact on the family caregivers normal daily living. In the present study, the results showed six issues in daily living categories as will be presented below:

Increase of the Family Caregivers Responsibilities

Six months later, all victims still had residual disability. (See as Table 28). Some of them had more than one type of disability. They still needed some or complete support from their family caregivers. This evidence leads the family caregivers to have more responsibilities than previously. The following quote illustrates this complaint:

“It impacts on me very much. After I finish my work and go home, I feel tired. I still care for him. When I arrive home, he does not take a bath, does not have dinner. I do these activities for him. It is difficult, because my health is not so good”. (Caregiver ID 20, wife)

“After I take on the role as family caregiver, my life changes a lot. Now I think my life still changes in the future. I take care of her, I am not sure she can work in the future or not. I think a lot at this point. I look after my five children. I look after them by

myself. At the same time I care for her too. She can only open her eyes, not respond to anything. This is my big burden.” (Caregiver ID 32, husband)

“He can walk but his memory has a problem. Sometimes as he walks he goes to the toilet along the way. I feel stressful. I hold on to everything, to my children, my brother, everything.” (Caregiver ID 34, older sister)

To overcome this impact, 8% of the family caregiver felt caring for a victim increased their family functioning and led them feel stress. They had to work hard to support and maintain their family stability. In addition, they had to spend their time for caring for the victims. Particularly, family caregiver ID 32 looked after a vegetative state victim. He dealt with the day-to-day experience of living with a disabled spouse who required 24-hour care, and he shifts his role looking after the family. Moreover, some of the family caregivers also have to maintain full time employment. After finishing work, they took on the role of family caregiver. Some of the family caregivers felt that the caregiving role is an overloaded role. This study has a consistency with Bond (2002) who reported that the new role and responsibilities were the stress of caregiving. Leaf (1993) described that the role of overload can contribute to conflict, fatigue, and guilt to the family. Jacobs (1988) reported that most THI survivors lived with their families. Families usually assumed this was their major responsibility for long-term care. Brooks and McKinley (1983) mentioned that family members frequently reported moderate to severe THI and the degree of burden was perceived as increasing overtime.

Decrease in Leisure Time

As mentioned above, caring for a person with a THI is a heavy burden on the family caregivers. It leads the family caregivers to decrease their leisure time. At discharge time, the victims continued to require care from their caregivers, especially in daily living activities. The present study showed that only one young wife of 18 years old, complained in this sense, as the following example illustrates.

"Most of the effects are related to myself. I lose my free time. I nearly don't have the opportunity to go anywhere. I can't do anything except only sit or sleep at his bedside." (Caregiver ID 26, wife)

In this example, the THI victim was in a vegetative state. In addition, his family caregiver was a young adult, so when she took on the role of family caregiver, it was in contrast to the nature of this age. Moreover the caring activities for a vegetative victim are a considerable. She felt that her time was constrained, as she spent all of her time caring for her husband. This change disturbed her social life and leisure time. Thus the exemplar expressed the impact of caregiving on her free time. Rosenbaum and Najenson (1976 cited in Harris et al., 2001) demonstrated that the changes in a wife's social life or her free time is a predictor of her depressed mood. This result is similar to the complaints from a family in the Hall and colleagues study (1994). Hall et al. (1994) reported that most of the family caregivers' complaints are about the lack of leisure time.

Family Caregivers' Psychological and Health Problems

After THI, the family caregivers experience stress when coping with a THI victim in the home. Consequences of THI disturb the family caregivers in many dimensions and lead them to have psychological and health problems resulting from this traumatic event. Most of the family caregivers' complained about the THI victims' emotional changes. According to the participants supports some of the THI victims were aggressive and some of them often have a high level of dependence on the family caregivers. Moreover, the families are confronted with financial problems. Their demands often tax or exceed their resources. One example is shown in the following anecdote.

'I feel I am going mad or losing my mind. I feel my emotion is easy irritated. Sometimes I don't like the things that I see. I am moody as half of my self is going to be mad. (Caregiver ID 26, wife)

Some of the family caregiver complained that caring for THI victims interferes with their health, especially when those caregivers are mothers. This may be influenced by their old age and refer to their health. Some of them used medication to help them to rest and sleep. The complaint from a mother presented below:

“While caring him, I feel weak. Sometimes like to be syncope, dizzy. I have less time for sleeping. My son wakes up and walks all night. I have lost a lot of weight.”
(Caregiver ID 15, mother)

“I feel very stressed. He can’t walk. My children go to school, and our daily living needs money. I can’t sleep. I used medicine to help me to sleep. If I do not take the tranquilizer, I can’t sleep. I have lost 7 kg since I started caring for him.” (Caregiver ID 45, wife)

The result showed that the stressor from THI led the family caregiver to have psychological and health problems. The sources, which lead the family caregivers to have psychological and health problems were the victims’ behavioral and cognitive changes. This finding was confirmed by Harris et al. (2001). They found that the victims’ behavior problems correlated with the family caregiver depressions, because the most common consequences of THI for the family caregivers, often have a negative result (Brooks, 1991). Thus family caregivers are a high-risk group for emotional distress. Kreutzer et al. (1994b) reported that 47% of the family caregivers meet the criteria of emotional distress. Douglas and Spellacy (2000) and Oddy et al. (1978 cited in Kreutzer et al., 1992) and Stebbins and Pakenham (2001) reported that 39% to 68% of THI family caregivers had psychological distress. Oddy, Humphrey and Uttley (1978) described that family caregivers suffered physical stress while trying to cope with a disabled family member. Hall et al. (1994) found that THI family caregivers were changed in their health and have emotional distress. There is also evidence that THI relatives have a high incidence of psychosomatic disorder (Mass-Clum & Ryan, 1981; Panting & Merry, 1972 cited in Kreutzer et al., 1992). Jacob et al. (1987) and Noh and Avison (1988) reported that family caregivers usually expressed that the caregiving role

led them to fall into poor physical health as well as physical distress. However, at Time 2 of the quantitative findings in Chapter IV showed that the PGWBS of family caregivers had lower scores when compared with the normal population. Thus, Vitaliano, Zhang, and Scanlan (2003) described that the family caregivers are a group at greater risk of health problems. They also had a high risk of psychiatric problems (Max et al., 1998).

Impact on the Family Caregivers' Work

Table 2 showed most of the family caregivers (48.9%) were employees. After THI, they had to take on another role of caregivers. In addition, the THI victims' demographic characteristics showed that their ages were between 18 to 72 years. All of them depended on current employment for income. When a head of the household has an injury, this responsibility is referred to the family caregivers. However, after six months, all of the THI victims in the present study still had physical deficits, cognitive, emotional, and behavior changes. Their daily activities of living were dependent on the family caregivers. The frequency of dependency was based on the victims' level of disability. Some of the family caregivers were out of work after caring for the victim which led the family caregivers to lose their job. For example, one of the vegetative state victim's caregivers complained that the role of family caregiver led her to be out of work as the quote below illustrates:

"I can't go to work. I am out of work because of caring for him. It impacts on me. I have no reserve money like before because in the past I worked, I had reserve money, but now I have no work, so I have no income". (Caregiver ID 26, wife)

Moreover, the present study showed that there were three cases where the family caregivers were confronted with interference to their working time after they took on the role of caregiver, as all victims had some residual disability, their expressions will be presented as below:

"My life has changed. Now I do not work. I will care for him, until he is better, he can walk. My two children are working. They can support me." (Caregiver ID 23, father)

"I can't work as normally as before. I worry about him. If his friend comes to visit, he will go out with his friend. I fear he will have a second injury. So I stop my work to be near him." (Caregiver ID 42, mother)

These results are similar to findings gained by McKinlay et al. (1981) and Obserg, Kalm, Rowe, and Brooke (1996) who reported that the possibility of suffering a sequel THI disturbs the family caregivers occupational life. Brooks (1991) found that this result led the family caregiver to have a lack of vocational opportunities. These cause the family caregivers to have financial problems. In this regard, Montgomery, Oliver, Reisner, and Fallat (2002) demonstrated that 30% of THI family caregivers lose their jobs.

Loss of Social Interaction

Caregiving is a busy task, especially if the THI victim is in a vegetative state and has residual cognitive impairment, or behavioral changes. They need close care from the family caregivers. The family caregivers should spend most of their time looking after them. One of the family caregivers complained of the negative impact of taking on the role of caregiver. She lost some of her friends. She lost the opportunity to have a relaxing time or activities with her friends. She said:

"After I lost my job, I felt I had lost my friends. It is not the same as before, because they are still working, and some of them have no time to visit me. Some of them keep aloof from me. Why? When they came to visit me, I was not talkative the same as before. I couldn't speak loudly. I can't have fun with them. Sometimes they asked me to go out for relaxing. I couldn't go with them. So they went with other friends who can go with them". (Caregiver ID 26, wife)

From this example, we can see that the family caregivers spend most of their time caring for the victims. Their social functioning and social interaction is negatively impacted. Florian, Katz, and Lahav (1989) and Zeigler (1999) reported that THI disabilities led the family caregivers through a process of social withdrawal. As Livingston et al. (1985b) found that by six months after the THI, the family caregivers were beginning to show evidence of social malfunctioning. This also was consistent with Kozloff (1987) and Jacobs (1988). They reported that the family social functioning of the caregiver was disrupted after dealing with THI. Family caregivers complained of a lack of social contacts at six months post injury (Hall et al., 1994). This interruption also interferes with the family's psychological functioning and it reduces social interaction, which correlated with the family caregiver depression.

Impact on the Marital Relationship

A number of researchers have examined the relationship between gender of spouse caregivers and reported levels of burden and coping strategies because a person with THI is typically a man. Most of those who identified themselves were female caregivers. In addition, since the majority of THI survivors were young males, the family caregivers tended to be mothers and young wives (See as Table 2). However, the present study not only focuses on wives, so the researcher will use the term of spouse.

The sequel of a THI event is especially devastating. This is due to a change in the marital relationship. The spouses are faced with the sudden change in their role from confidante, lover and shared decision-maker to caretaker. As they lose their healthy partner or they live in limbo, they have difficulty dealing with unpredictable behavior, cognitive impairment, or neuropsychological changes. At the same time, they take on the parent role for other family members. They felt that they were overloaded with new roles. An example of this sense is presented below.

“If he is still in this state (vegetative state), I think I may feel daunted one day. I feel tired. That means I can’t tolerate it anymore. It is too much of a burden for me. If

he is not better, I may leave him. There have been many changes in my life. I will go on. My life has more future than this". (Caregiver ID 26, wife)

In this quotation, the changes of the family caregiver's life while caring for a disabled husband leads her to feel that she could not tolerate the caregiving role anymore. Hence, she had a dilemma: should she leave the victim or leave the marriage. However, finally, if she cannot maintain this crisis event, she will terminate the marriage because she thinks she is young (18 years old), and she has a long future. She can do many more things in her life rather than only staying with a disabled husband. This finding is also confirmed by the Zeigler (1987) study. The result found that many young spouses opt to terminate their marital relationship after they deal with the THI caregiving role. Particularly, the victim's psychological sequel effects negatively on marital relationship (Christensen, Skaggs, & Kleist, 1997; Perlesz, Kinsella, & Crowe, 1999).

In some case, after the victim has returned home from the hospital, his wife leaves him. Thus, the responsibility for the caregiving role is referred to his mother. Not only does his mother look after the victim, but she also looks after his 6-years old son. His mother complained that THI exerts a bad influence on the marriage relationship.

"After returning home, his wife never came to care for him. The first time, she said she would support her son's fees. In the first month following the THI, his wife used to visit him and his son. She lives near my house. But now she never comes to see her husband. I should accept this, because his wife left from him already. That is her right, because my son is disabled now." (Caregiver ID 33, mother)

This is an example of a victim with residual disability, in a vegetative state. His spouse was unable to accept the changes in her life. Moreover, the results from the THI also disrupted the mother's marital relationship. One of the participants in the present study had a new family, but she cannot maintain her marriage. The result was that the participant spent most of her time caring for a victim that lead the participant to ignore

her wifely responsibility for her husband. Finally, the participant was at a centrifugal stage of loosening marital cohesion. The quotes below illustrate this impact as below.

"I have a new husband, but he does not help me to care for my daughter. So I made the decision to leave him. I want to save my daughter's life. This is my final decision."(Caregiver ID 1, mother)

Marital relationships or marital stability is a sensitive issue especially if that victim is in a vegetative state. The present findings showed the impact of a child's THI on the parents' relationship. This may interfere with family functioning. Hu et al. (1993) reported that severe injury to a child places a heavy strain on normal family functioning and the parents' marital relationship. Much research reported that THI results lead to a strain on marital relationships (Des Roiser et al., 1992; Frye, 1987; Wade, et al., 1996). The family caregiver must confront the problem quickly, and his or her life is often permanently changed. The spouse of the THI victim is forced to take on his or her various responsibilities and duties (Kreutzer et al., 1994b; Zeigler, 1999), and the day-to-day experience of living with a disabled partner. These are the sources of stress for spouse and they refer to the strains on the bonds of a couple's commitment (Catanzaro, 1990).

Accordingly, the long-term sequels of THI have a long impact on the family caregivers. Hu et al. (1993 cited in Wade et al., 1995) found that 45% of THI families felt that their lives had not returned to normal within six months following the THI event. Harris et al. (1989) suggested that THI changed the family structure including separation and divorce. Hall et al. (1994) concluded six reasons why there are more problems for spouses than for parents. Firstly, parent caregivers felt that caring for the illness of their children was a parent's responsibility, whereas a spouse is assuming the duties of caregiving as a new role. Secondly, parents have more resources to support them. Thirdly, parents seem to have less financial problems than spouses. Fourthly, the marital relationship may be more vulnerable to the effects of behavioral changes than parents. Fifthly, parents may self-medicate with drugs more than spouses. Finally, most of the

victims were significantly younger in the parent caregiving group, and therefore behaviors might be more easily tolerated. Rosenbaum and Najenson (1976 cited in Christensen, Skaggs, & Kleist, 1997) found that wives of THI victims felt that after THI, their lives had changed. There was a feeling of depression, loneliness and of isolation, tense family relationships, and role reversals between themselves and the victims. These changes lead them to have high levels of insomnia and social dysfunction. If they cannot maintain their situation, these changes may impact on their marital relationship, because their depression decreases marital satisfaction, the quality of life of marital relationship. All of these will effect the family caregivers' coping strategies (DiBartolo & Soeken, 2003).

In summary, outcomes after THI impact on the family caregivers in many dimensions: financial strain, the family caregiver's quality of living, the psychological and health problems, work, social, and marital relationships. The difficulties and problems faced by the family caregivers continue and may be exacerbated with time. All of these refer to the family caregivers coping strategies, which will be discussed in the next section.

5.2.4 Coping Strategies

Coping with the effects of a THI is a challenge for the family caregivers based on the longstanding residual effects including cognitive, behavioral, emotional, and physical changes. After six months, the findings showed that the family caregivers used only emotion-focused coping strategies. The use of emotion-focused coping strategies was predictive of poorer psychological health in the family caregivers in the future.

According to Lazarus and Folkman (1984), individuals experienced emotional distress when they appraised their environmental demands as exceeding their resources. The same may apply to THI family caregivers, long-term care places a burden on the family caregivers and the impact of the victim's long-term neurological dysfunction was catastrophic for their families. In addition, long-term caregiving to a THI victim is a dynamic process, the burden changes overtime (Elmstahl et al., 1996). In the present

study, at six months following THI, all of the THI victims had the sequel of disability, which included one or more disabilities. It is possible that the main problem of their coping strategy is emotion-focused strategy. It consists of three methods: the use of sedative drugs, hope, and Thamjai (changing the attention and spiritual supports).

The Use of Sedative Drugs

In the home, the caregiver is exposed to primary stressors that include doing specific tasks for someone who is in a vegetative state, who have personality changes or have aggressive behavior. Some of the family caregivers should also fulfill the role of spouse and/or parent. Moreover, they may sometimes also change their roles to become the heads of households. At night, they may even suffer sleep deprivation. Thus, one method to help them relax and rest is taking the sedative drugs. In the present study, 8% of the family caregivers required sedative medication to help them to cope with this stressful event. The quotes below illustrate the situation in which they used sedative medication:

"I feel very stressed. (speaking with a high voice). I feel stressed and my eyes are swollen because he should go to court.... Someone told me that I should pay a lot of money for my son's matter. My son was not wrong. I think a lot. It is difficult to sleep. So I use the medicine. If I do not take the medicine, my thinking is filled with fear. I am paranoid. I take four kinds of medicine before bedtime." (Caregiver ID 42, mother)

".... I should be patient. Nobody can help me. I should do it by myself. I think a lot about our future. Sometimes I am unable to sleep. I use the medicine to help me. It helps me to feel less stressed. I take sleeping medicine 2 to 3 times per month. It can help me to sleep. If I can't sleep, I feel very exhausted and weak." (Caregiver ID 1, mother)

"Sometimes I use a sedative drug. I think a lot. My thinking is confused". (Caregiver ID 15, mother)

In Time 2, the family caregivers still used the medication for coping with stress the same as Time 1. Because of the long-term responsibility on THI victims, the family caregivers should maintain their family functioning in a balanced state. In one day they have a lot of situations to think about and plan, all of these cause strain. They cannot sleep. Some of the family caregivers took medication to reduce their tension. Similarly, Panting and Merry (1972 cited in Kay & Cavallo, 1991) found that 61% of the family caregivers required medication to help them cope with severe THI victims in the long-term rehabilitation process. Especially with the severe THI victims, the family caregivers used tranquilizers and sleep medication. Panting and Merry (1972 cited in Sander et al., 2003) found an increased use of tranquilizers among THI family members. This finding is also confirmed by Marsh et al. (1998 cited in Harris et al., 2001) who found that THI family caregivers use prescription drugs and non-prescription drugs for the release of their stress. Some of the family caregivers used alcohol. As the use of alcohol, there is no report in the present study, as most of the participants were female and in Thai society, most females use minimal alcohol.

Hope

Hope is a facilitating method for people dealing with a stress event. This concept is widely accepted in nursing.

The long-term nature of THI recovery and the victims' susceptibility to permanent disability are major family caregiver stressors. Recent results showed that 12% of the family caregivers used hope as one of the methods to cope with this traumatic event. It leads the family caregivers to feel better especially about the future. The following examples were expressed by caregivers to negative state victims.

"The technique which I use in this situation is hope. Hope leads me to have will power. That means if he continues to be better, I need to continue to care for him."
(Caregiver ID 26, wife)

"I would like to give him the best care. We should think our son will be better. When I am under stress, I think he will improve the same as other persons, one day. This leads me feel good of my new role." (Caregiver ID 33, mother)

"One thing which I hope is she will be okay. If she can walk, I can go back to earning a living. I know when she was injured, but I don't know when she will be better. It may be several months, or several years. Now, she is a lot better, but she can't walk. I hope in the future she can do anything by herself." (Caregiver ID 1, mother)

In this respect, the present study shows that both moderate and severe THI family caregivers used hope as a coping strategy. It leads them to have the willpower to confront the caring of family members although they do not know the real prognosis of the victim's recovery. Frnak (1968 cited in Tracy et al., 1999) mentioned that families that have hope may envision a positive future in their critical event. Acorn and Roberts (1992) reported that the family caregivers used hope as their coping strategy in the long term for dealing with THI survivors. Molter (1979) and Phipps et al. (1997) reported that THI families' profound hope is for a full recovery. Families usually hope that their head-injured family member would get better. As hope is the domain of psychological health and well-being (Cutcliffe, 1998; Perlesz, Kinsella, & Crowe, 1999). Johnson and Roberts (1996) recommended that hope provides life sustaining energy that can help the family caregivers to cope with their crisis (Carpentio, 1993; Synder et al., 1991 cited in Johnson & Roberts, 1996). They explained that a THI family member who perceives hope expects that personal action will be successful and will attain their goal. Hence, Thompson (1994) described that hope is anticipating that prospects for the future are going to be positive. In reflection of this finding, the results of the Time 2 the PGWBS scores showed that six months later, the family caregivers had better psychological general well-being than in Time 1. According to Koner (1970 cited in Tracy et al., 1999), a key proposal of hope is to reduce emotional discomfort which is related to strain. Thus Thompson (1994) and Tracy et al. (1999) respected that hope is a powerful motivator. However, many researchers suggested that for relatives of critically ill victims, hope should be based on reality (Gelling, 1999).

In brief, hope is a significant coping method in helping THI family caregivers to have a sense of the ability to generate their complex feeling and to have the expectation good recovery rates to continuum. Therefore, the result showed that in Time 2 the family caregivers the PGWBS scores were identified as positive well-being.

Thamjai (Thai Term)

This method of emotion-focused coping was still evident showed at six months following the THI. However, there were some differences in the detail of the method from Time 1. In Time 2, the family caregivers used only external locus of control. The family caregivers presented two patterns for coping with the chronic disabilities of THI victims: changing attention, and seeking spiritual support.

Changing Attention

Changing attention is an indirect action for relieving the emotional impact of a stressful situation. Family caregivers used several tactics such as speaking with other persons, watching television, reading and listening to music. Two examples of tactics that the wives of THI victims used for coping are quoted below:

“Sometimes when I feel stress, I watch TV. It helps me to relax. I feel better. When I feel very stressed, my emotion is very easily irritated and to get syncope”.(Caregiver ID 20, wife)

“I don’t know how long it will take for him to get better. It makes me feel very stressed. Sometimes I call my friend or my mother. When I talk on and on, I can forget it, but if I stay alone, I think a lot. Sometimes I read a lot of books. It can help me to easily fall asleep, sometimes I listen to music. It can sooth my emotions better. If he has an aggressive behavior, I feel I don’t like to care for him. Sometimes I feel so tired and daunted, I have to walk out the door or count number till I clam down. When my mood calms down I go back in care for him. I used to count for about half an hour. I used to

count to one hundred and then back from one hundred to one. I sit in meditation. My mood will calm down. ” (Caregiver ID 26, wife)

As the examples demonstrate 24% of family caregivers used changing their attention to decrease their stress by speaking with friends, reading the books or watching television when they stayed at home. From the examples shown, some of the family caregivers used more than one tactic to relax and cope with their stress. This finding is similar to Sethabouppa’s (2002) study. She found that Buddhist family caregivers, in severely mentally ill cases, changed their attention from stress events by listening to the radio and watching television.

Seeking Spiritual Support

Spiritual support in the present study represents the religious coping mechanisms and belief in God. Based on Thai culture, religion influences the people’s way of life. This is a normal practice in Thailand. This strategy can help the family caregivers to feel better and, at the same time, it leads them to have hope. The coping strategy examples are illustrated as below.

“My family member suggested I ask Ma-Song about his injury. How about his future? I believe that. Some of the changes are likely the result of Ma-Song’s prediction. That means he is better. He will be okay but it takes a long time. I should wait. Everybody told me the same words: I should wait. That is okay. At least after the Ma-Song prediction lead I feel good.” (Caregiver ID 26, wife)

Phuket culture has one strategy for spiritual support. It is the belief in the Ma-Song (Thai term) or we call the entrance horse that refers to devotees whom the God enters, as Thai people believe that the entrance horse can tell them about what will happen in the future. This can help the family caregivers to plan to respect future events. Moreover, if the prediction is good, that means the family caregivers have a hope for good results

from the victims' recovery period. This traditional method is integrated in the Thai people's way of life.

On the other hand, some of the family caregivers trusted in God. They prayed to their religious leader. For example, one of the Muslim family caregivers prayed to Allah:

"I depend on Allah. I talk with Allah. I pray to him to help my son get better quickly and be the same as before, so he can return to work. I pray overtime in my five times of Lamad activity. I feel he is getting better day-to-day. Allah can help me"
(Caregiver ID 15, mother)

This empirical finding showed that 16% of the family caregivers used both religion and spirituality, which goes beyond the religious. They use Ma-Song as a center of communicating with some super natural being. These are supernatural powers and magic acts created by the spirits. This phenomenon is usually apparent in Thai culture. This finding is confirmed by Wuff (1997 cited in Baldacchino & Draper, 2001), who stated that one way of coping with illness is to communicate with the supernatural powers. Sethabouppha (2002) mentioned that people's belief in supernatural powers and magic acts could prevent and cure sickness and solve human beings' problems. Lane (1987 cited in Baldacchino & Draper, 2001) argued that a spiritual phenomenon is the relationship with others for support and security, relationship with God through self-transcendence, by going beyond oneself to reach a higher power. Thus, effective spiritual coping strategies may help the family caregivers to have the self-empowerment to cope with the stressful event. In Soeken and Carson's (1987) idea, a person's spirituality is expressed and developed through formal religious activities such as prayer and worship service. In the present study, family caregivers used private prayer in times of stress. Reed (1992) mentioned that private prayer is one type of coping strategy, which is defined as an internal cognitive approach. Religion leads people to feel more at peace, more productive, more purposeful, and to derive comfort and strength from their faith (Riley et al., 1998). Koeing et al. (1997 cited in Sethabouppha, 2002) found that 60% of the family caregivers used religion to a large extent when they were dealing with

stress events and the religious support was positively related to well-being. Baumann (2003) claimed that religion was probably an effort for helping a person to find the meaning and relief from their depression. Leaf (1993) reported that one of the key aspects to helping the family caregivers to cope with THI results was faith. The family caregivers used several demonstrating of faith to deal with stress.

In sum, individuals of the family caregivers used several coping strategies. The most frequent coping strategies used were hoping victims would get better, praying and trusting in God, changing their attention, and using tranquilizers.

However, whether the family caregivers can deal with this difficult experience or not is based on their resources. In the present study, the family caregivers received various means of support, as their resources for confronting with the stressful event, which will be presented in the next section.

5.2.5 The Resources for Dealing with the THI

The impact of neurological deficits from THI on the family caregivers can be immense. Thus resources for helping the family caregivers to deal with the impact are very important. In Time 2, the family caregivers dealt with the neurological impairments in day-to-day experiences and a variety of resources are required to deal with these challenges. Social support plays an important part in coping. In the present study, at the time of discharge, the family caregivers found support for their role from family members, friends, and will power.

Family Members

It is widely accepted that THI impacts on the family as a whole. The consequences of THI on the family caregivers and family members are largely negative. The majority of the family caregivers in the present study were female. They were mostly mothers and wives. Most of them were employees. Under the caregiver role, their responsibility lay

over a variety of tasks aimed at maintaining their family functioning and well-being. Family members are the significant resource for helping the family caregivers to go through stress and to develop the effective coping strategies. In this view, the family caregivers received some help from their family members as described below:

“I think slowly. My siblings help me, give me something. It is better. They give me some money. My stress is reduced now. Because I have the money problem now.”
(Caregiver ID 45, wife)

“His siblings give some help to me. Some of them give forty, fifty baht to him [her husband] each day. Some of them give food for him and help me to care while I go out to sell my food.” (Caregiver ID 27, wife)

As mentioned above, money is a significant problem for the family caregivers. It is presented as a source of distress and impact on the family caregiver. In the present study, there were been two family caregivers that received money from their siblings to release their financial strain.

Besides, the family caregivers (40%) received the emotional support from their family members, for example they helped them to care for the victims. That leads the family caregivers to have the time for resting or relaxing from their stress. Most Thai families are extended families, when a family member is injured, the rest of the members who live in the same house can help and support each other. Some of them depend on the family caregivers in their daily living activities. The quotations below will reflect this.

“His older brother helps me to lift his arm and leg for his rehabilitation. Seeing siblings help together I feel good. He has a responsibility to his sibling. He can lessen my burden. Normally, their relationship is not so good. Now it is okay. We help together.” (Caregiver ID 3, mother)

"My family helps all they can. He (victim's father) pays attention and helps me. In the night time, he helps to look after my child. That means we sleep in the same room. My child usually wakes up and walks in the night time. We fear about his behavioral changes, because he has a memory problem. Sometimes I sleep deeply. Who see him and wake up to look after him. His siblings are very worried about his changes." (Caregiver ID 5, mother)

The present study, 40% of the family caregivers had their family members to help them to maintain their normal roles and the additional role as caregivers. George and Gwyther (1986 cited in Dring, 1989) and Waaland and Kreutzer (1988) reported the interesting result that family members are often the significant persons which the family caregivers like to be with when they dealt with the stressor. Leaf (1993) mentioned that one of the key aspects of helping the family caregivers to face with their distress from THI was family. Moreover, to Thai family culture has a close commitment. This is a significant factor in the stability of close relationships in the family.

Friends

In addition to family members, friends are another group of people who can help the family caregivers to release their stress and to cope with this traumatic event. They act as the family caregivers' consultant, and the resources for the family caregivers to express their stress. This study found that the family caregivers' friends played significant roles in helping to release their strain two fold.

Firstly, their friends lend support to their financial problems. The financial strain is a significant problem for them. For example, one of the family caregivers expressed the help that they received from her friend as follows:

"Now my family has money problems. I received money from my friends. Most of them are the persons whom I normally enjoy working with. I depend on my relatives too. But it is not enough." (Caregiver ID 42, mother)

This phenomenon is part of the Thai culture and is influenced from religion that refers the help they give to each other.

Secondly, friends act as confidantes. Sometimes the family caregivers feel they have no way to solve their problems and relieve release stress by themselves. When the family caregivers have the opportunity to express or to consult with their friends and this can help them change their appraisal and attention. At the same time, they may receive suggestions from their friends to solve their problems. To this point, the family caregivers expressed the following:

“Sometimes I go out with my friends and we go for a walk. I speak with my friends about my husband’s problem. Some of my friends help me or give me some suggestion. That is good, because only me. I can’t think by myself. I feel dizzy.”
(Caregiver ID 26, wife)

Friends act as financial support sources and interpersonal relationships aide in the expressive support. This finding was confirmed by the Mass-Clum and Ryan (1981) study. It reported that the coping strategy of talking with a friend could help the family caregivers release their stress. Matocha (1992) mentioned that the family caregivers needed to talk about their stress situations and to vent their feelings such as fears or frustrations. George and Gwyther (1986 cited in Dring, 1989) and Waaland and Kreutzer (1988) found that friends are one resource that THI family caregivers are likely to meet. Friends were one of the key components that the family caregivers used to confront THI victims (Leaf, 1993). Mass-Clum and Ryan’s (1981) findings showed that THI family caregivers expressed that talking with a friend could help them to reduce their distress.

Inspiration

Inspiration in the Thai language is “kamlangjai”. It means the psychological support from other persons for helping someone to confront with a stressful event. This word is

usually expressed by the family caregivers. Based on the THI results, it impacts on the family as a whole, especially he or she who takes on the role of family caregiver. They need this resource to support them. Here are two examples to illustrate this.

“My daughter gives me the inspiration to go on. She helps me to look after her father. She does everything. She is not lazy.” (Caregiver ID 38, wife)

“I received some help from my family members. Some persons always help me, give me hope...If nobody talks to reduce my inspiration, such as “he couldn’t get better”, I can stay with him. All of my family members give me the inspiration. That can help me to stay with him until now.” (Caregiver ID 26, wife)

The family caregiver deals with the disabled family member, and helps with psychological or emotional support. It is one resource that can help the family caregiver to deal with a stressful situation.

In brief, the three resources that were mentioned are all forms of social support. Social support is suggested as an effective way of coping (Des Rosier et al., 1992). It helps the family caregivers have hope, which leads to well-being. Douglas and Spellacy (2000) accepted that social support plays a vital role in the maintenance of psychological well-being. Most family caregivers need emotional support. Stavors (1987) said, THI families need psychological support for a long time when they deal with the results from THI.

5.2.6 Resources for Assisting the Caregiving Role

Caring for THI victims at home is known to have an impact on the family caregivers in the long-term. In the present study, the family caregivers used much resources when they dealing with their THI relatives as the researcher mentioned in the resources for dealing with THI victims’ section. This study also explores the resources for assisting the caregiving role. From in-depth interviews, the family caregivers expressed four

resources that can facilitate easier caregiving. These resources were 1) home health care, 2) rehabilitation unit, 3) financial support, and 4) knowledge of caring for the victims.

Home Health Care

After THI victims return to their communities, some of their deficits will improve and/or disappear over time. Some of them cannot go to hospital for follow-ups, because of their family's financial strain. Family caregivers suggested that home health care services for THI victims would help them gain more information from health care providers. Moreover, this service allows health care provider to follow the THI victims' changes. In addition, if the family caregivers have some questions to ask, or feel they are difficulties to deal with, they can consult with the home health care team. The following examples illustrate support for a home health care service:

"...I would like a health care team to visit and assess his symptoms. They can show how to make sure has a good recovery. Now I only care for him based on my knowledge. I don't know if it is right or wrong." (Caregiver ID 26, wife)

"I would like a health care team to visit us. I don't know about the inside of his brain, whether he will recover or not. I don't know. It is very difficult for me to bring him to meet the doctor. It is a long way and I have money problems." (Caregiver ID 27, wife)

The two examples above reflect that in Phuket and Pang-nga provinces, the home health care service system is still missing in caring for THI victims and the family caregivers. Most people eligible for home health care services are elderly patients and sufferers of chronic disease, for example, stroke or diabetes. The present data showed that in the victims' rehabilitation phase, the family caregivers still needed information and professional support based in the community. This finding was supported by Kolakowsky-Hayner, Miner, and Kretuzer (2001), whose result showed that the family caregivers needed the health information (51.43%), and professional support (28.33%).

They were related with the family caregivers quality of life. Therefore, the future of home health care services should include THI victims. As we know that the results from THI impact on family as a whole, family caregivers experience significant stress when coping with a THI victim in the home.

Rehabilitation Unit

As the RLAS in demographic data in Chapter IV showed, THI victims had a high risk of cognitive impairment. At the six-month follow-up, the THI victims had residual disabilities in cognitive, emotional, behavior, and physical abilities 64%, 48%, 44%, and 20% respectively. All victims' rehabilitation was depended on the family caregivers. Some of the family caregivers felt that if their community had a rehabilitation unit to support their relatives or other disability patients that could help patients have good recoveries. At present they do the rehabilitation activities by themselves, and they are not sure if their activities are right or wrong, or if the THI victims should receive other special rehabilitation programs. If the community can provide a rehabilitation unit, THI victims will receive appropriate rehabilitation programs to enhancing their recovery processes. The following quotation captures this point:

“There should be a rehabilitation therapy or health care team to visit and help him to exercise his legs and his arms. He can't walk, only lie down. I do for him, but I don't know what is right or wrong....or the health care unit could support with some equipment for me to help him to exercise.” (Caregiver ID 26, wife)

“THI victims need rehabilitation therapy. Their arms or legs can't move the same as normal people. I used to take him to hospital for rehabilitation. It is a long way from my house. I observe the therapist, and then I do that exercise at home. I am not sure at the time if I can remember all of the exercises or not. Now I would like some information from the therapist.” (Caregiver ID 3, mother).

It can be seen that, rehabilitation is significant for THI victims' recovery process. Now, the responsibility of THI rehabilitation delivery has shifted to the family caregiver because Thailand has the limited health care resources. This phenomenon is the same as the reported in the Acorn (1995) and Merkley (1997) report. They reported that the shift in the site of care delivery has occurred because of scarcity of rehabilitation settings and a large move towards community based health care. One way that can solve this need is to include a rehabilitation care team in each primary health care unit or home health care team. When they visit the victims and their family caregivers, they can demonstrate or give information to the family caregivers. Moreover, they can assess the family caregiver's ability in enhancing THI victims to have a good recovery. This may lead to THI victims having high or opportunity to return to work or to decrease their dependency on their family caregivers.

Financial Support

As the results mentioned in the topic of sources of family caregiver distress and the impact from THI on family caregivers, financial strain is a big problem for the family caregivers in maintaining their family functioning and the long-term care for disabled family members. After a THI event, most THI victims are out of work. Some of the family caregivers have debate, because they have much expenditure. For example, the routine costs of maintaining the family, costs that can be traced to the disabled family member and the costs of the replacement of a motorcycle after an accident. All expenditures except the health care consumption is dependant on the social insurance or thirty baht project, if the THI victims are registered with one of these. However the family caregivers cannot support their routine costs. It can be seen that in six months post THI, the family caregivers request for financial support from their community or Thai Government to set a special organization for their social welfare. The following example illustrates this concern:

"I would like to have an organization to help me. Our living conditions are very strained. My husband is a motorcyclist. His income is 100 to 200 per day. It is not enough for our family living expenses." (Caregiver ID 33, mother)

"I don't want any help except financially. This is my family problem now. He can't return to work and I can't work hard now." (Caregiver ID 20, wife).

An analysis of the transcript showed that the family caregivers expressed the financial impact of the disability on their family. After their family members got THI, the financial resources available to the family are decreased. Thus, they cannot maintain this situation for a long time. Moreover, THI victims in the present study did not receive disability welfare. Family financial strain may interrupt improvements in the THI victims' cognitive functioning.

Specific Knowledge of Caring for THI Victims Changes

As there is a continuing trend of shortened inpatient rehabilitation hospitalisation for THI victims, family caregiver involvement is critical to THI victims' recovery. The literature review identified that THI was a new experience for the family caregivers. In hospitalisation, nurses give some of information and training for the family caregivers including how to give a bath, how to prevent pressure sores, how to feed liquid nourishment by nasogastric tube, and how to give passive exercise for victims. All of these are based on the hospital setting. All the information, which they receive, are based on activities for daily living. Yet they return to their homes, they are confronted with differences and difficulties for them to manage the THI victims' cognitive impairment, behavioral, and physical changes. The reality that they face or information on is often overwhelming. For example, there is no emotional support, behavioural management, how to contact the community resources. In addition, at the initial time of injury, the family caregivers dealt with many stressors. This can interrupt their perception of the nurses' information. Thus, they expressed that after returning home,

they still needed the knowledge of caring for the victims, especially specific care for the THI victims' changes. To this point, the family caregivers expressed the following:

"I think the information from health care providers is the best for me. If I do not list questions, they do not tell me anything. I think they should have some booklet or handbook to explain about THI, especially with content about physiological complications or its changing and how to manage that problem. We should respect that health care providers cannot stay with me overtime, particularly after we return home." (Caregiver ID 3, mother).

"The information which I received from nurses during his hospitalisation was basic. I would like in-depth knowledge about how to care for him. Now he does not recover the same as normal people. His arms and legs are still stiff. I don't know how to solve this problem. I've helped him to exercise for passively 2 to 3 months, but nothing has improved". (Caregiver ID 26, wife)

From these examples of the events, it is evident that the family caregivers felt that they lacked knowledge of how to care for their family members. Knowledge of how to care for someone disabled is very important for enhancing their recovery. This helplessness may lead the family caregivers feel stress when caring for the victims. As a result, caring for THI victims at home is known to have an impact on the family caregivers burden. One thing that one of the family caregivers commented on was that health care providers did not always share their ideas about what is important in the injured person's recovery or how to manage his or her disability. Oddy (1978) and McDoland (1992) reported that many family caregivers perceive themselves to have inadequate information and training to provide care to THI complex health needs. This finding was congruent with Merkley's (1997) finding. She found that THI family caregivers needed the information related to symptom management. This finding also shows that the health care delivery system pays less attention to family education in term of brain injuries. In addition, Kolakowsky-Hayner, Miner, and Kreutzer (2001) also reported that in the long-term 47.93% of the family caregivers need to receive the involvement with how to

care their family members. Thai health care providers should be concerned about this in the future. To this point, Grinspun (1987) recommended that before discharging THI survivors to the community, health care providers in acute care settings should educate caregivers in six areas: general, cognitive, affective or attitudinal, psychomotor, preparation prior to first therapeutic home visit, and discharge plans.

To summarise, the resources that the family caregivers request from these findings are very important for assisting their caregiver role. In addition, they can promote the THI victims to have smoother recoveries. Some of the family caregivers requirements have been event though they can encourage health care policy makers or health care delivery systems to extend in new ways to support THI victims and their caregivers, especially in the community.

5.2.7 Conclusion

The findings showed that six months after injury, THI greatly affects the entire family system in a number of ways. For example, socially, emotionally, psychologically and through health related financial problems. The family caregivers still have a negative view of THI. They gave the meaning of THI as the cause of disability, severe injury, hard and tired, stressful event. In contrast, they also expressed THI with a positive view. During this period, there have been five sources of distress: the victims' prognosis, financial problems, caring dimensions, victims' reactions, and decision-making. In coping strategies, the results showed that the family caregivers used only emotion-focused coping strategy. Hope and seeking spiritual support were the dominant coping strategy in this study. In particular, seeking spiritual support reflects the benefit of religion for family caregivers. This is the Thai way of life. Moreover, the results showed that the resources believed to assist the caregiver role are home health care, rehabilitation unit, Government financial support, and specific knowledge of have to care for a THI victims' changes.

This section was mainly focused on the views of the family caregiver’s lives following six months after the THI. The next section will present the findings of Time 3 to explore broadly how life had changed for the family caregivers, and the impact on the family caregivers, their coping strategies and which resources they used to assist with the caregiver role.

5.3 Qualitative Finding in Time 3

This section outlines the interview findings from 20 family caregivers after one-year experience in caring for THI victims. The focus of the follow – up interview explores broadly, how life has changed for the family caregivers, the impact on the family caregivers, and their coping strategies and resources. The themes and the association sub-themes are presented in Table 29.

Table 29
The Themes in the Findings

Themes	Section
The meaning of “head injury”	5.3.1
<u>Sub-theme</u>	
- Severe injury	
- Causes of disabilities	
- Slow improvement	
The sources of distress	5.3.2
<u>Sub-theme</u>	
- Financial problems	
- Victims’ reactions	
The impact	5.3.3

Table 29(cont)
The Themes in the Findings

Themes	Section
<u>Sub-theme</u> <ul style="list-style-type: none"> - Financial problems - Caregivers’ psychological and health problems - Loss of social interaction 	
Coping strategies	5.3.4
<u>Sub-theme</u> <ul style="list-style-type: none"> - Problem-focused coping <ul style="list-style-type: none"> * Learning about the victim’s behavior - Emotion-focused coping <ul style="list-style-type: none"> * Spiritual support * Acceptance * Karma * Seeking spiritual support 	
Resources for dealing with THI	5.3.5
<u>Sub-theme</u> <ul style="list-style-type: none"> - Hope - Family members - Traditional medicine /local wisdom 	
Resources for assisting the caregiver role	5.3.6
<u>Sub-theme</u> <ul style="list-style-type: none"> - Financial support - Rehabilitation unit - How to care for bed sores 	

5.3.1 The Meaning of “Head Injury” to the Family Caregivers

The caregiving experiences of the family caregivers caring for disabled THI victims, described three themes that corresponded to the research questions in this study: 1) severe injury, 2) causes of disability, 3) slow improvement

Severe Injury

Throughout the year of caring, some of the family caregivers still assigned the meaning of THI as a severe injury representing the same as Time 2. In their minds, the head is a vital organ for human living. Some THI victims finding in a vegetative state or totally dependent on the family caregivers, as the caregivers narrated:

“It is not so good. It is severe. Injuries in other parts of body are better than a head injury because other parts of the body do not require a long time for recovery. The head is the most difficult part for recovery” (Caregiver ID 36, mother)

“It is a severe injury. The head is a vital organ for a human being. After this injury, it affects the memory and neurological systems the most. After one year he is not better. I don’t know how long he will in this state.” (Caregiver ID 5, mother)

The results from THI, may mean that victims have lifelong disabilities and cannot return to work. Family caregivers compared THI victim’s improvement with other traumatic injuries. As other the injuries do not cause the victim’s loss of consciousness or damage the neurological system, they perceived that a head injury is the most severe injury. This finding was supported by Hardgrove (1991). He reported that most family caregivers of THI victim’s perceive THI as a horrible thing to go through. In addition, it is difficult for the family caregivers to know the prognosis following the rehabilitation phase.

Causes of Disabilities

After one year, the 20 cases of THI victims still had residual disabilities such as cognitive, emotional, behavior, and physical impairment (See as Table 30). These disabilities impacted on THI victim’s family members. The one of important affects was the victims lose of employment. From this area lead their family continue with many changes.

Table 30
The Disabilities in THI Victims at One year (n=20)

Disability	n	%
Cognitive	15	75
Emotional	12	60
Physical	11	55
Behavioral	7	35

Note: one victim may have more than one disability

As the THI outcomes depict, THI victims cannot return to their work or places of education. Some of them who were students must stop their education. Thus the family caregivers deal with the prolonged disabilities and the chronicity of their illness. THI is the major cause of the victims prolonged disabilities. The results lead victims to improve less than if they had suffered after illness. As the following examples illustrate:

“The head is important. It controls everything in the body. Sometimes when I ask him to do something, he can’t remember. Today he took a mobile phone to Phuket. When the battery was empty, he dropped it. I just bought a new one for him today. He though after the battery was empty, it was useless. He though it was the same as a toy.”
(Caregiver ID 42, mother)

“He looks not the same as normal people. When I look, I feel not so good. He still has some abnormality. He has a problem with his memory and he gets angry easily. Sometimes he has aggressive behavior. He never had this behavior before.” (Caregiver ID 27, wife)

As Table 30 showed, the THI victims still have residual disability at the one year stage. Most of them had cognitive impairments and behavioral changes. The cognitive deficits can have a greater impact on both victims and their family caregivers. As we know from the outcomes of THI that cause problems both in the short term and long term. Kersel et al. (2001) found that after a one-year follow-up, nearly 50% of victims still had moderate to severe disabilities. One year after THI, victims continue to display impairment in general intelligence, attention, verbal ability, memory, executive functioning, and perception. Hall et al. (1994) found that THI family caregivers usually complaint that victims have a bad temper, which causes emotional changes over a one and five years period. Moreover, the impact of the victims’ aggression and their behavioral changes are complex tasks for the family caregivers to deal with. It easily leads the family caregivers to have distress. Hendryx (1989) reported that the victim’s cognitive change was more extreme than emotional change. The victims’ disability is one cause for their loss of employment. Moreover, their disabilities may interfere on the family caregivers in various dimensions such as marital relationships, causing compound financial loss, disruption to family functioning and family psychological well-being. This causes suffering for the family caregivers and other relatives.

Slow Improvement

As Table 30 showed, after one year following THI, the victims had residual disabilities. Family caregivers spend a longer time in their rehabilitation phase than other trauma victims. Family caregivers feel that THI takes longer to recover from. The following excerpts accounted for this:

"If a doctor removed a blood clot, as a result of a head injury, I thought he would get better, but doctor did not do that for my son. Today he still can't return to study. It is a very slow for getting better." (Caregiver ID 42, mother)

"It takes a long time for healing. The doctor told me that the recovery in old age is slow." One year later if he is in this state that is okay". [victim can walk, but has the poor memory]. Sometimes I know what he said. However, it is so long for me." (Caregiver ID 38, wife)

THI usually causes long-term impairment. In previous studies, the research demonstrated that THI requires more than a year for recovery. The present study shows that after one year THI victims still had residual impairment. It is difficult for them to set time frames for the rehabilitation phase. Wade et al. (1996) followed a group of THI parents. They found that the most specific area of concern for parents of THI victims was whether or not the child would fully recover.

In summary, one year after THI, the family caregivers gave a meaning of "head injury" which was very to be similar at six months opinions. In Time 3, the family caregiver definition of head injury was focused on the victim's recovery. In this regard, Park and Folkman (1997) described that meaning is a critical aspect of someone adjustment to life stressors. This means it refers to the family caregivers' coping strategies. The victim's recovery ability will give positive and negative impacts on the family caregivers and the victims in the future.

5.3.2 The Sources of Distress to Family caregivers

Family caregivers are confronted with numerous psychological as well as behavioral manifestations, which are very disturbing to the family as a whole. Family caregiver's distress is caused by of a lack of financial resources and the victim's reactions.

Financial Problems

Chronic illness was seen as being a burden to the family caregivers because the THI victim's take a long time for the rehabilitation phase. Family caregivers also had to take care of total financial expenditures of victims and other family members. As victims were unable to work due to their intellectual dysfunctioning they became financially dependent upon their family caregivers, and the loss of income impacted on the families ability to maintain family functioning. Sometimes the family caregivers faced the difficulty of a number of extra expenses. Financial problems were mentioned all three times by the present sample of caregivers. A financial problem for the family caregivers was seen as a significant source of distress for over a one year after the injury. The following examples demonstrated this:

"He can't return to work. Money is my problem. We still have a financial problem. I can't work hard, so I work at small jobs. I receive a low income. It is enough for earning. Each day I receive not more than 100 or 80 baht. In the past I received 150 baht." (Caregiver ID 20, wife)

"...My income is enough for supporting the family each day, but if he (victim) wants to pay for something extra, we can't do that. At this time we should limit our expenses. Now the school has holidays, I feel better. Sometimes I have money, sometimes I have no money." (Caregiver ID 27, wife)

In this study, 25% of the family caregivers were confronted with this problem at the one-year follow-up. They explained that the family caregivers did not have enough money for daily expenses. This is the family caregivers' chronic problem. Hence, the FAD-GFS scores in Time 3 still identified family dysfunction. This may be because they cannot solve this problem. The family caregivers who indicated that they dealt with financial strain admitted that the economic problem is a major burden for caring for THI victims. This result was confirmed by Jacobs (1987 cited in Cavallo, 1997) who reported that financial issues were a concern for all family caregivers in the long- term.

This is especially the cause in the low socioeconomic groups (Sander et al., 2003). Most family caregivers mentioned their financial needs (Hooi, 2002). Bhaoras (1997 cited in Sethabouppha, 2002) conducted a follow-up of family caregivers to mental patients. The results showed that economic problems are the usual complaint by the family caregivers. In the present study it can be seen that the family caregivers' finances were further strained which caused suffering for other family members. Wade et al (1996) reported that financial strain is the most common concern of the family caregivers both in moderate THI (16%) and severe THI (29%) samples.

Victims' Reactions

Some THI victims still have residual disabilities after one year of recovery (See as Table 30). However, at the one-year follow up, the participants paid more attention to the victims behavioral and emotional changes. These two changes often occurred together, leaving the family caregivers feeling that they have difficulty to managing both. The following excerpt reflects this point:

"I feel stressed. He went to Phuket for five days, I couldn't reach him. Previously, he was not having this behavior. He used to obey me. He wore clean clothes, but now he is not concerned about this. I think it relates to his brain damage. Two to three weeks ago, I bought chicken feet. He picked them up from the plastic bag and ate them at that time. This behavior is not normal in an adolescent. They do not eat raw chicken like this. Most of them usually are ashamed. His friends do not eat with him. He talks rudely to them. When he looks at someone, especially a girl, he will give an insulting applause. I fear someone will assault him because of his abnormal behavior. His friends know about him, but other persons do not know. I think he may in this stage for a long time." (Caregiver ID 42, mother).

"She gets angry easily. That is related to her brain. Sometimes I can't accept that, sometimes I hit her. If she wants something, she thinks she must receive it immediately. I hit her, she cries. Sometimes I feel stressed out. I am tired from my work.

I feel highly stressed. Sometimes I want to die. I have stress with her changes. However, I know this is the result from her head injury.” (Caregiver ID 1, mother)

The victims had personality changes, particularly behavioral and emotional changes. All of family caregivers felt that it was difficult to deal with these changes and that has psychologically affected them. This will be discussed in the impact section. This finding is similar to that of McKinlay and colleagues (1981). Their findings showed that one-year following THI, most of the family caregivers were concerned about the affects from lack of emotional control and behavioral problems of the person with THI. Brook et al (1986) reported that one-year after THI, the family caregivers complained that as the victims' personality changes, it was a heavy burden on them. Prior and Sawyer's (1999) finding suggested that victim's behavior changes at one-year follow-ups related to lower family functioning. The present study of quantitative data in the previous chapter shows that in Time 3 the FAD scores were still low. Carvallo et al. (1992), Erg et al. (2002), Wade et al. (2003) and Yates et al (2001) mentioned that the victims' residual emotional or behavioral problems caused the family caregivers to have long-term stress and burden. Moreover, Prior and Sawyer (1999) explained that THI victims' behavioral problems at the one-year follow up were correlated with lower scores of family functioning.

The effects of THI upon both victims and their family caregivers are both permanent and devastating. Thus, health care providers should stress the importance of assessing the sources of the family caregivers distress. However, in quantitative findings in Chapter IV showed that at Time 3 most of the family caregivers PGWBS scores reflected positive well-being. In this sense, Courtney (1997) described that one-year post THI, many family caregivers begin to realize the kinds of problems they will be facing. That may refer to the fact that the PGWBS scores were higher than in Time 3.

5.3.3 The Impact on Family Caregivers at One Year

THI recovery with chronic residual disabilities had a strong impact on the family caregivers' psychological and physical health, social life, and financial status. In the present study, there are three main themes that are discussed: 1) the impact on the family caregivers' psychological and physical health problems, 2) financial problems, and 3) the loss of social interaction. These themes are continued from the Time 2 findings.

Family Caregivers' Psychological and Health Problems

One year after THI, the family caregivers had to deal with the day-to-day living concerns arising from victim's personality changes. The family caregivers experienced problems and felt the heavy responsibility of financial strain. Some of the family caregivers could not meet their basic needs nor their family's functioning. As the quantitative findings of the FAD-GFS in all three times showed the family caregivers deal with their family dysfunction. The PGWBS in all three times also showed the family caregivers' psychological well-being was worse than in the normal population. At the one-year follow up, the main themes mentioned by the family caregivers were an increasing level of stress, a changes in the impact on the family caregivers psychological and physical health. The following excerpts account for this:

"Now my health is not so good. I feel pain in my hip, sometimes I get chest pain. I can't carry heavy things. I feel very streded. You see! Now I look very old. I have stress with her, stress with my family." (Caregiver ID 1, mother)

"Since I took on the role as caregiver, my health has not been so good. I can not work much. I feel tired and get chest pains. If I feel tired, I feel I can't breathe. I feel chest discomfort. " (Caregiver ID 20, wife)

In this study, 20% of the family caregivers stated that caring for the THI victim impacted on their general health and psychological well-being. As two examples

illustrated, the family caregivers had a dual role function. In the first example the participant had both the mother and caregiver roles and in the second example, the participant took on roles of wife and caregiver. Oddy et al. (1978) found that THI relatives were still depressed even one-year after the accident. This was confirmed by Mass-Clum and Ryan (1981) who reported that THI relatives have a high incidence of psychosomatic disorder. They experience frustration, irritability, annoyance, depression, and anger. Moreover, Kosberg and Cairl (1986) and Robinson et al. (2001) found that one of the impact dimensions from caregiving is the family caregiver's physical and emotional health. However, in Hooi's (2002) study about chronic mental illness caregivers, she reported that the family caregivers suffer only physical problems. Douglas and Spellacy (2000) reported that 60% of the family caregivers they sampled were classified as having post depression. The recovery period from THI range from 3.5 years to 10 years. They were in poor physical health as well as suffering from physical distress. Thus, Vitaliano, Zhang, and Scanlan (2003) reported that family caregivers are in a high-risk group for health problems. Moreover, the family caregivers also have a high-risk for psychological problem. (Max et al., 1998).

Financial Problems

Financial problems are one of the longitudinal impacts on the family caregivers. Some of the family caregivers and THI victims were out of work or reduced work and this compounded the financial loss. This impact not only occurred on the family caregivers, but also on all family members as the following excerpts demonstrate:

"Sometimes I think if he did not get the injury, he could work and could support the family's economic status. Now only my husband earns money. Sometimes we have not enough money. We have two little children at school age. Both of them pay fifty baht per day. Each month there are three to four times when we lack money. The income of my family is about 2,000 to 3,000 baht and we use about 3,000 baht each month."
(Caregiver ID 15, mother)

Fifty-five percent of the family caregivers explained that they were confronted with financial loss and this disrupted family life. This percentage was less than in Time 2 (38%). They reported that they lacked money for the daily expenses or to pay for the victims' living. Mauss-Clum and Ryan (1981) and Courtney (1997) noted that in the long term, the family caregivers were confronted with financial insecurity. Douglas and Spellacy (2000) and Schwartz et al. (2003) reported that if the family caregiver lacks money it is a significant disadvantage and it leads the family caregivers to have psychological problems. In addition, family strain interferes with the victim's outcome and adjustment. Montgomery et al. (2002) reported that 30% of THI families were faced with deteriorations in finance. In Thailand, the specialized departments for supporting family caregivers' financial problems are inexistent. Thus, if the family caregivers have financial difficulties, they have to manage by themselves. This is a weak point in Thai social welfare. In contrast, in Perth, Western Australia, the Headwest (Head Injured Society of WA) is available to give information and advice on acquired brain injury for both victims and their families.

Loss of Social Interaction

Loss of social interaction refers to family caregiver's loss of independence. In the present study the sample of caregivers complained about not being able to go anywhere as they previously did. As THI victims' disabilities lead the victims to need proximity care from the family caregivers, they had to be constantly with the THI victims at home. This caused changes in the family caregivers lifestyle because of the lack of social interaction. They had feelings of being disconnected from social activities and from their friends or social groups. As one family caregiver expressed in her own words:

"In the past, I usually went to join community activities but now I feel bored. I don't like to meet other persons. If I go anywhere, I feel I am worried about my son. I fear he will go outside and drive a motorcycle. I fear he will have a second injury. I feel better if I stay with him. He is always in my sight." (Caregiver ID 42, mother)

The example cited above illustrates that after the family members take on the role as the family caregiver, their social functioning is disturbed. Even if the victim was not in a vegetative state, he had residual cognitive impairment and emotional changes. His mother feared he would go out or he would drive a motorcycle. In addition, his emotional changes may lead him to have behavioral changes, yet the family caregivers must still give intimate care. This finding was consistent with Kozloff, (1987), Jacobs (1988 cited in Sander et al., 2003) who reported that the social functioning of the family caregiver was disrupted after dealing with a THI event. This leads the family caregivers feel social isolation (Harris et al., 2001).

The severe, prolonged functional disability from THI, usually impacted negatively on the family caregivers causing negative factors in physical, psychological, emotional, social, financial and well-being. Family caregivers may or may not experience stress depending on their coping strategies which will be discussed in the next section.

5.3.4 Coping Strategies

As a result of the challenges and stressful experiences of the family caregivers, some of them develop mechanisms to deal with their problems. Some of the coping strategies adopted early in the caregiving term endured and were evident over the three time. Seeking spiritual support, was one such coping strategy, which endured. Acceptance and Karma were used in Time 1 and Time 3. Lastly, learning to cope with the victims' behavior was a new coping strategy identified in Time 3. The results showed that people make re-appraisals after they have received new information. Thus coping is a dynamic process that is based on a person's present context. This is agreeable with Lazarus and Folkman (1984) who stated that coping is a cognitive appraisal.

By one year, the family caregivers' coping strategies can be grouped into problem-focused coping strategies and emotional-focused coping strategies as will be discussed below.

Problem-focused Strategies

Problem-focused coping strategies are used to solve problems. In this study, the family caregivers described one method of problem-focused coping at one year following the THI: learning to cope with the victim's behavior.

Learning About the Victims' Behavior

In the one-year following the THI, the family caregivers dealt with many sources of distress and applied several coping strategies to cope with their stressors. As time passes, the family caregivers re-appraise the stressors and help family members to better understand the victim's responses, reactions, and so on.

The caregivers in this study indicated that the victim's behavioral changes were highly impact on their ability to cope. While caring for THI victims for one year, the family caregivers also adopted changes in their lifestyles and responses. Some of the victims had aggressive behavior toward other family members. This coping strategy helps them to respond to the victims' reactions. Alternatively it helps the family caregivers to release tension between themselves and the THI victims, as reported by some family caregivers:

"I should adapt myself. Sometimes I speak with him, I teach him to be satisfied. I should be still. I look at his behavior response. If I am quiet, he will get better. If I am not quiet, he argues with me and he is very obstinate" (Caregiver ID 42, mother)

"Caring for him sometimes leads me to feel heavy hearted. For example, he can't go anywhere, he can't speak. Now I observe and learn his behavior and responses. In my observation, if he feels hurt, his breast will harden. He suffers from constipation and his wound shows an abscess." (Caregiver ID 26, wife)

As the results from THI lead the victims to have behavior changes. In the previous two times, the family caregivers were confronted with this crisis event. Family caregivers felt that victim's behavior changes were very difficult for the caregiving role. One method that they used to cope was to learn about the victims' behavior. This includes how to approach the victims, when the victims present their reactions, and analysis of signs that indicate the victim will have behavior changes. Therefore, the family caregivers try to learn to live with the THI victim's aggressive behavior. As Hooi's (2002) study on the family caregivers of patients with chronic schizophrenia, indicated that learning through experience was essential and facilitated the family caregivers in developing coping strategies. Leaf (1993) described that in the long duration of post injury it helped the family caregivers to acquire an understanding of the nature of the victim's deficits from THI.

Emotion-focused Coping Strategies

Emotion-focused coping strategies are used if former methods are not appropriate. These strategies can lead to stress relief but without changing the objective situation (Lazarus & Folkman, 1984). In the present study, the family caregivers described three tactics of emotion-focused coping; acceptance, Karma, and spiritual support.

Acceptance

When the family caregivers take on the caregiving roles at one year after the THI, they still deal with the disabilities of the victims. Some of the victims have slow recoveries and some of them are in vegetative states. Most victims cannot return to work and family caregivers are confronted with multiple sources of distress. Finally, they feel that there is no way to change this situation. The best thing for them is acceptance of the THI disability. Family caregivers accept the fact that the victims cannot be as normal as other people. Acceptance helps them maintain their role in dealing with life and survive through with the caregiving process, as reported by some of the family caregivers:

"I think I can accept this reality. I should thamjai until his final period if he is still in this state (vegetative state). I can accept it. If he will get better, we can care for him. Although when he changes into another state, we still can care for him. (Caregiver ID 26, wife)

"Nothing. Everything is normal. Take it easy in caring for him. I accept that. It is the same as looking after a child. He may not get any better than this [cognitive impairment] This is the best thing for me to do at this time. It is okay." (Caregiver ID 38, wife)

Family caregivers of moderate and severely disabled THI victims used acceptance as an emotion-focused coping strategy. This strategy leads the family caregivers to feel better and not to be absorbed in the stress event. With acceptance, the family caregivers are able to accept the reality of their caregiving role, and realize that the victim's disability, such as cognitive impairment, physical deficit, emotional changes, or behavioral changes may become permanent. Almberg, Grafstrom, and Winblad (1997) reported that over a long-time, the family caregivers can more easily accept the situation of caring. Reed et al. (1994) suggested that realistic acceptance is adaptive and it is the basis of coping with severe and acute illness. It can help a person to cope with results that have a negative outcome. In addition, it is the best way for the participants to release their stress. Moreover, Kay and Cavallo (1991) reported that acceptance in a sense of willingness to acknowledge that changes have actually occurred. Acceptance can lead the family caregivers to make decisions more easily and set goals based on their acceptance of reality. Norbeck et al (1991) noted that acceptance of a patient's mental illness was hopeful for the family caregivers and it was one type of social support. Glendy and Mackenzine (1998) and Teschinsky (2000) found that families used acceptance of the chronicity of the behavioral changes of mental illness as one of their coping strategies. Nevertheless, the participants' religious backgrounds, particularly Buddhist teaching influence the family caregivers to accept the reality. This topic will be discussed in the following section.

Karma

Karma is used in Buddhism as a strategy to reduce tension. Karma means action. This action is either good or bad. It is related to the process of cause and effect. The family caregivers in the present study perceived that the THI cases were caused by karma in a past life of bad action. Family caregivers adopted this idea when they began to realize that the THI victim's disabilities could not be cured, or they did not know how to deal with the victims' changes. In the present study, 77.8% of the family caregivers were Buddhist. The doctrines of the Buddhist religion have strong influence on the Thai people and the Thai way of life. Karma is believed to guide the family caregivers to more easily accept the fact that the situation is unchangeable, as Karma, focuses on the victim's past life. This sentiment was revealed in the following excerpts.

"He can't speak well. He can not go to work. I don't know what to do with him. In the past life we may have to make retribution with him.... Now I don't hope. In one year, if he will be better, I think he has a good chance for recovery. I think that is based on his karma. In the past life he may do bad thing, so this life he received that feedback. I feel tired and discouraged" (Caregiver ID 34, old sister)

Family caregivers stated that the law of Karma acts as a buffer to release their suffering when dealing with the THI victim's residual disabilities, burden and emotional distress. Holtz (1998) mentioned that Buddhist philosophy has been found to play an active role in decreasing people's anxiety. Sethabouppha (2000) conducted a study on Buddhist family caregivers in mental illness, found that Thai family caregivers used the Buddhist belief (Karma) to cope with their stress. Most of them indicated that a belief in Karma was a source of dealing with their negative feelings. This is the normal way of life for Thai Buddhists. In Tungpunkorn's (2000) study, she found that a belief in Karma could help them to let go of their feelings and accept the patients and their illnesses. This is because of the idea that they cannot do anything about Karma. Hall (2002) described that karma is unalterable, fixed and unchanging. The only thing that they can do was just let everything happen, and this belief leads them to have lower expectations for the

victims' recovery. Family caregivers believed that the THI is the victims' punishment and fate.

Seeking Spiritual Support

This is another coping strategy, which the family caregivers used during the year. Family caregivers experienced their coping experiences by using religion and praying to their Gods. In this sense they felt that it could help them have hope and feel better. Below are some examples:

"I use religion. I pray to the God to help him to get better quickly and be the same as before. I pray after I finish my Islam praying. I pray to Allah." (Caregiver ID 15, mother)

"I usually go to the temple on a Buddhist holy day, where I go and I meet many friends. I feel better." (Caregiver ID 42, mother) For Thai people, caregiving is usually related to a religious belief in a higher power (Kespichayawattana, 1999). Family caregivers prayed for improvements in their family members' conditions. This method related to the family caregivers emotional well-being. The present study showed that both Buddhist and Islam caregivers seek spiritual support. The evidence of spirituality is believed to enhance health and God has been described as giving life, meaning and purpose. Moreover it helps a person to hope. The faith in God is the borders divine wisdom. Both spirituality and religiosity provide health benefits; improve health status, recovery from illness, or enabling people to cope with illness and adversity (Coyle, 2000). In addition, higher levels of spirituality may help people to maintain their psychological well-being, decrease the effects of negative life events, lead people to feel at peace, hope, strength and have a sense of well-being, and empowerment (Tanyi, 2002). Hooi (2002) reported that prayer, increased religious activity, and an acceptance of God's will reduced the perception of stress.

Religious beliefs are important because they may influence the family caregivers' lifestyles, attitudes, and acceptance of illness (Kozier, Erb, & Bufalino, 1989 cited in Hooi, 2002). Religion helps people have inner strength and helps them to accept illness (Hooi, 2002). Koenig et al. (1997) found that 60% of people use religion to a large extent when dealing with problems.

Therefore, family caregivers seek spiritual support for coping with their multiple stressors. It leads the family caregivers to have hope while caring for the victims. So understanding the spiritual dimension is a strong coping strategies for family caregivers and this is an interesting and important revelation in health care practice.

In brief, over the one-year following the THI, the family caregivers used both problem-focused and emotion-focused coping strategies. This was supported by Lazarus and Folkman's (1984) theory that acceptance, hope, and seeking spiritual support were common coping method among the family caregivers. As Sender et al. (1993) mentioned that styles of coping strategies were related to the family caregivers psychological health. Understanding the several methods the family caregivers employ as coping strategies is useful for health care providers because it enables them to help the family caregivers to better adapt in their role coping with stress.

5.3.5 The Resources for Dealing with the THI

Resources for dealing THI are one type of social support. In Time 3, the family caregivers used some resources to mitigate stress events; such as hope, family members, and traditional treatment and local wisdom.

Hope

Hope is one method of decreasing the family caregivers' emotional discomfort whilst caring for THI victims. Family caregivers with a positive outlook are well motivated to maintain care. Family caregivers in this study expressed their hopes for their disable

family members to get well, and maintain their role within the family. Some family caregivers despair at the slow recovery of the victims and hope for a better outcome. The following excerpts were expressions of the family caregivers:

“I expect he will get better because his symptoms are better.” (Caregiver ID 15, mother)

“I hope he can talk. That would be good. He can talk first, walking is the next step.” (Caregiver ID 26, wife)

In a recent study, 45% of the family caregivers used hope as a resource for reducing stress. Family caregivers hope that the victims will have good recoveries. The previous section of the study stated that hope allowed a certain positive approach by using Karma and spiritual support as coping strategies. Moreover, Johnson and Roberts (1996) recommended that hope provides life-sustaining energy. As Thompson (1994) described, hope is anticipating that the outcome will be positive in the future. However, although the family caregivers may have an effective coping strategy, their hope should be based on reality as mentioned in the Time 2 findings. Perlesz, Kinsella, and Crowe (1999) concluded that hope helped people have good expectations of victims' recovery rates. Thus, the family caregiver's psychological well-being in the quantitative findings were identified as showing positive well-being.

Family Members

The long-term nature of THI rehabilitation phase is a burden for the family caregivers. Help within the family is based on bonding between blood relatives. The extended family structure is found to be the most predominant type of social structure in Thai families. Families live together and continue to encourage each other, achieving reduction in the stress in the family structure. This support and encouragement can release the family caregiver's strain as some participants expressed below:

"It is okay. I have some social interaction because there is his aunt to help me care for him. That leads me to have time to relax." (Caregiver ID 26, wife)

"I borrowed money from my relatives. If I have money, I can pay them back. They help me a lot in my financial situation. (Caregiver ID 24, wife)

The results in Time 2 and Time 3 were similar. Family caregivers received financial and caring support from their family members. Leaf (1993) indicated that the family was one of the key aspects for the family caregivers to deal with distress. In long-term caregiving, family members are the significant individuals to support the person who takes on the role of family caregiver (George & Gnyther, 1986 cited in Dring, 1989, Waaland, & Kreutzer, 1988).

Traditional Medicine and Local Wisdom

Traditional medicine and local wisdom influence Thai culture in the case of self-care. It is often used in conjunction with the professional health care system. The initial treatment of the patient is usually by modern treatment, based on the professional sector of the health care system that employs Western scientific medicine, for example the physician diagnoses the extent of the injury by CT scan, then on operation or western medical techniques are used. During the year following the THI, the family caregivers used other health care systems combined with the professional health care sector. The following excerpts reveal evidence of caregivers seeking outside support.

"I bring him to a massage place. After getting a massage, I feel he is conscious. He nods. He's been getting massage thereby for about two months, every day for half an hour. I feel he's getting better. The people who do the massage use incantation and oil, use hot water and a herb that it is a component of tamarind leaves. This can help his muscles and tendons to relax. We bring him at 4 or 5 A.M. for him to relax." (Caregiver ID 26, wife)

“Some family caregivers use the tree roots for medicine to support the nervous system. Somebody told me that it is related to the tendon. The one that tells me which method is good, is the one I use. I want him to get better, because he cannot sleep at night. He feels aches along his legs. He has a stiff neck. Most of the motorcycle accident victims come for massage after they are discharged from the hospital. They use massage and modern medicine. I feel he is getting better.” (Caregiver ID 15, mother)

Twenty percent of the family caregivers used traditional medicine or local wisdom integrated with the professional medical system. Their feelings are that traditional Thai medicine helps the victims' recovery better than using only western medicine. The medical system is a cultural production and both systems are socially and culturally constructed. Kleinman (1980) stated that three health care systems overlap: the popular, professional, and folk sectors. Family caregivers use massage as a popular sector of health care. It is a popular cultural trend in the initial stages to explore alternative methods for curing an illness. Ryan, Keiwbarnka, and Khan (2003) viewed that traditional Thai massage is an important aspect of the primary health care system in Thailand. It is a means of prevention and cure for the Thai community. People can actively take responsibility for their own health, as it is inexpensive. Moreover, it is an effective treatment in it self or in conjunction with other medication. It offers many physical and mental health benefits. Traditional Thai massage stimulates all organs and balances all systems of the human body. It is a powerful therapy for physical and emotional problems. In Kleinman (1980) folk sector is the largest part of any system. In addition, the family caregivers used herbs, incantations and essential oils for healing. There are the folk sectors of a health care system. Now it is widely respected that traditional Thai massage is an integral part of Thai culture and more importantly in the Thai health care system (Ryan, Keiwbarnkad, & Khan, 2003). To date, in Thai society, popular sectors of health care and folk methods are the alternative health care systems that are widely accepted and acknowledged as local wisdom.

The incantations and the use of herbs are components of the folk sector, which are classified as sacred and secular parts. Herbs are popular components and have a place in

folk sectors. They form the basis in Thai society for caregivers that is referred to as local wisdom. The modern health care system does not help THI victims to meet the health care demands of solving the problem. It covers the social, spiritual, and environment dimensions effectively (Sukkaew, 2000).

Thus Kleinman (1980) concluded that in all three sectors of the health care system people have their own cognitive and behavioral pattern of beliefs, and responses to human problems created by sickness that are based on the context of the culture. This result is consistent in Tungpunkom's (2002) study in psychiatric caregivers, which reported that traditional medicine; using herbs and holy waters were used in combination with spiritual and medical practices. This is a common use in Thailand, and these methods have been utilized since ancient times. Again, Kespichayawattana's (1999) study of elderly caregivers, found that the family caregivers combined other alternative medicines as parts of caring, such as traditional medicines and magic powers. Alternative methods are commonly considered when modern health care cannot be able to treat the chronic illness or is not effective in treating THI victim's disability.

Results show that traditional medicine or local wisdom is an alternative resource for the family caregivers. The scope of tradition Thai medicine includes traditional Thai massage, herbal medicine, and psycho-spiritual healing. All of these treat the human body holistically. In contrast, western medicines focus on disease parts. Few studies have been conducted to this area. Moreover extensive research into the health benefits of this area is needed.

5.3.6 Resources for Assisting the Caregiver Role

As well as visiting participants' homes, the researcher also questioned the family caregivers about the resources available for assisting their caregiver roles. The results found that the Time 3 findings were similar to the Time 2 findings in term of financial support, rehabilitation units, and knowledge of how to care for victims. However in

Time 3 the family caregivers were more specific in the topics of information, which they wanted to know.

Financial Support

As time went on, one year after the THI event, 35% of the family caregivers expressed that they would like to receive financial support. This percentage is higher than the Time 2 findings. Based on the family caregivers limitations in their financial resources, they cannot maintain their finances for a long time. Thus the Time 3 findings displayed a higher percentage of participants requiring this resource.

Rehabilitation Unit

The finding presented above show that the THI victims still had cognitive dysfunction, emotional changes, behavioral changes, and physical changes, 75%, 60%, 55%, and 35% respectively. The participants mentioned that a rehabilitation unit was very important for THI victims' recovery. This lack of this facility from Time 2 may impede THI victims' recoveries. The following example typifies this concern:

"My house is located far from the centre of town, I would like to have a rehabilitation unit in my community. This unit can provide therapy for many groups of patients. For example, to provide the service for THI person, elderly people who have problems with his or her skeletons or muscles. Moreover, if there were rehabilitation staff, available that would be very good. He or she could give the right information on how to the rehabilitation equipment and so on. Thus can help disabled people to continue to improve their dysfunction. It is important. If the community had a rehabilitation service, I think he would be better than this [cognitive impairment and physical problems]. But now I do everything for him and I don't know if it is right or wrong. I do the best for him that I can do." (Caregiver ID 3, mother).

It can be seen from this example, that a rehabilitation service is very significant factor for THI victim recovery. Dinar et al. (2002) mentioned that most cognitive problems of patients with THI need rehabilitation while few recover spontaneously. In practice there are still pitfalls in this area. The family caregivers try to do everything that they can to improve their disabled family members. Gromwall, Wrightson, and Waddel (1998) said in many countries, after care of the THI victim is often inadequate, and families are left to manage as best as they can. This phenomenon is also evident in Thai culture.

How to Care for Pressure Sores

Of the sample group one family caregiver was concerned about caring for pressure sores, her son was in a vegetative state post the THI and she lacked money and knowledge for caring for her son. In practice, pressure sores usually occur in a person who is in an unconscious or vegetative state, if the carer does not change the patient's position every two hours. Moreover, there are several factors involved in this, such as nutrition, body weight, skin care, and so on. When a victim has one pressure sore lesion and the family caregiver cannot give appropriate care, that lesion expands in area or the victim will develop more lesions. This family caregiver saw these lesions on other patients while her son was hospitalised yet she did not know how to solve this problem. She only knew that pressure sores may lead the victim to reach an over worse condition. Thus when she deals with this problem, she felt it is very difficult for her for caring the victim. The quotation below is typical:

"It is very difficult for me to care for his bed sores. When he voids, I change his clothes, and then I clean him with water. After that I apply the cream which I bought from the pharmacy. It cost 65 baht. I don't know about that medicine. I saw this wound before when he was hospitalized, on other patients I fear this bed sore will expand in size or to other area. He has 3 bedsores. I've applied this cream for about 1 month. It is lucky his wounds are better. I don't know how to care for him. It is difficult for me to bring him to meet the doctor. He can't do anything. He can only lie down, and I have no money to pay the car fees. The driver charges me 200 baht per time. It leads me to feel

very stressed. I don't know how to solve this problem. I never received the information about this before." (Caregiver ID 33, mother).

In summarization, the caregiving role is a big burden for the family caregivers because THI usually results in long-term disability and often has complications, for example pressure sores in the vegetative state victims. Specific knowledge for caring is important for the family caregiver, especially those who have low income. To date, the primary care service does not cover every area of Phuket. Thus the family caregivers are confronted with the victims' health problem and this is very difficult for them. This empirical data showed that health care services lack discharge planning and do not offer continuous care throughout community. Hence, health care providers should be concerned about the process and content of knowledge, and should educate the family caregivers on discharge planning, as knowledge is significant for the family caregivers to care for the victims appropriately. Knowledge about what conditions they may face in the victims' recovery period and how to deal with problems, can help the family caregivers know how to approach the victims and can help the caregivers survive through the stress event.

5.3.7 Conclusion

Improvements in modern medical care increase the survival rates of moderate or severely injured victims. The disability of the THI victims affects the family caregivers, other family members and their society in many ways. The family caregivers are more likely to change their jobs, relocate, or make changes to their normal lives. However, if after one year disabilities remain, this places a burden on the family caregivers. The sequel from THI, the family caregivers gave the meaning related to the severity and rehabilitation of: severe injury, cause of disabilities, and slow improvement.

Sources of distress and the impacts on the family caregivers in Time 3 are likely to be the same as in Time 2, but some differences apply in terms of coping strategies. In Time 3, the family caregivers used both problem-focused coping strategies and emotion-

focused coping strategies. However, they used more emotion-focused coping strategies than problem-focused coping strategies, especially when they used Buddhist belief of Karma to release stress. This is a difference from the findings of the studies conducted in Western culture. The cultural context has influenced people's appraisals of their ways of life, and their problem solving management and strategies.

The present study found that the resources employed by family caregiver for dealing with the impact on their lives are hope, family members, and traditional medicine or local wisdom. This finding is different from the findings of Time 1 and 2. This may be because the family caregivers were experienced in dealing with a long-term or chronic disability, and the THI victims may have showed some improvement. Thus, they used an alternative care combination in their caring system. Their objective was always to make the victims have a full and speedy recovery. In reality, traditional medicine has been used in Thai society for a long time. It is related to the peoples' belief within their cultural context. However during the modernization period of Thai society, most of the health care systems became based on modern medicine. Traditional Thai medicine is one of the choices of alternative care available family caregivers. They felt that western medicine could not ensure their family members would recovery from the THI. Based on this result, the family caregivers used both the sacred and secular parts and integrated both in their care, especially the belief in a higher power. This is the secret topic in people belief and it is in contrast to western scientific medicine. If health care providers do not understand the family caregiver's way of life and beliefs this may lead to a conflict in the caring process.

This concludes Chapter V. Chapter VI will now present the summary conclusions and recommendations from the proceeding chapters in the present study.

CHAPTER VI

Summary Conclusions and Recommendations

6.0 Introduction

This chapter presents the key recommendations for the support of families caring for a moderate or severe head injured person in the acute hospital and community setting. The focus of these recommendations are fourfold. Firstly, recommendations are presented on the findings as to the implications for nursing practice and other health care providers, including community-nursing practice. Secondly, recommendations are presented on the community support services. Thirdly, recommendations for changes in public health policies that need addressed by local government authorities in Thailand. Finally, recommendations are presented on nursing education. The chapter concludes by with suggested directions for future research.

6.1 Practice Recommendation for Health Care Providers

The recommendations for health care providers are divided into two sections, those relating to the acute care setting and those related to long-term care in the community.

6.1.1 Acute Care Settings

Recommendation 1: Health care providers should know and have insight into the family caregivers' needs in the acute phase

The longitudinal impact of THI on family caregivers can be used to help trauma nurses and community nurses provide more sensitive and responsive care. It is important for health care providers to understand the nature of caregiving, how family caregivers construct their meanings of traumatic events, sources of distress, coping strategies, and

resources to deal with stress, because these insights can help health care providers employ the appropriate consideration in improving interventions. The present study showed that the meanings which family caregivers assigned to THI changed over time. In the initial stages of injury, the family caregivers were concerned with the victims' chances of survival and brain dysfunction, which refers to the victims' disability. As times went on, the family caregivers paid attention to the victims' residual disabilities, the victims' recovery, and their own new role activities. Understanding of the family caregivers' perception of THI can help health care providers to make sense of their coping strategies.

Recommendation 2: Health care practice should apply the SASRQ because it can predict family caregivers' at risk of ASD and make possible the early intervention before the family caregivers have maladjustment or adaptation to crisis events

The results in Chapter IV of this study indicated that during the 2 to 28 days after the family caregiver were exposed to the with traumatic events, both the moderate and severe THI caregivers met the criteria of an ASD. The study identified group that those at most risk were identification at risk were mothers and wives and they were employees. In most previous studies, research was concerned with the prevalence of posttraumatic stress disorder, which appears three months or longer after a traumatic event. There have been few studies that identify ASD as a health risk to family caregivers. Trauma nurses should be concerned with helping family caregivers through their crisis. It is imperative that trauma nurses assess the family caregivers that have problems or difficulties with their coping strategies. The intervention for ASD includes three phases of injury: crisis, stabilization recovery. In implementation, firstly, trauma nurses should assess family structure, functions, patterns of relationships, and the communication processes. The initial assessment should be started within 24 hours of the traumatic event. Secondly, nurses should allow the family caregivers to describe their own understanding and feelings about the THI event. This phase brings trauma nurses to know how family caregivers may cope with the impact from the THI. This can help family caregivers to achieve stabilization positively effects the healing or recovery

step. Moreover, they commented that this method could help family caregivers adopt the appropriate behavior and consensus with the reality of the situation, and employ the effective coping strategies.

Recommendation 3: Health care providers need to be more sensitive and considerate when describing the victim's prognosis to the family caregivers

Another important finding from this study documented in Chapter V showed that physicians' descriptions about the victim's prognosis was one of the sources of stress to the family caregivers. It is important for health care providers to speak clearly about the expected outcomes for the family caregivers. Based on fact that THI is a sudden, traumatic event, the family caregivers have little time to prepare themselves to deal with the critical illness of their family members. At the initial stages of THI, it is difficult for the family caregivers to accept the event. In addition, most people's perception of THI is that it is a severe illness and the victims' injuries may lead them to suffer permanent disability or death. Their prognosis and clinical signs and symptoms may change over time. Moreover, the family caregivers are confronted with many sources of stress. For example financial problems, psychological and physical health problems, disturbance to the family caregivers' daily living routines, changes in their roles, the impact on the sense of family, the waiting for victims' unpredicted prognosis and so on. Intrinsically, people need to hear a good prognosis of their family members from health care providers, particularly from the physician. Health care providers should be concerned with the sensitive issues for the family caregivers when describing the prognosis at the victims. They should convey the information factually, yet with sensitivity and give time for the family to prepare themselves to hear bad news. Physicians should give greater respect, value and encouragement in their health care practice. Thus, health care providers should concern themselves with, how to break bad news to the family caregivers and caution that telling the truth does not make the family caregivers exhausted.

Recommendation 4: Undertake the development of a specific health education package to the family caregivers before victims are discharged from the acute care setting.

An analysis of the interview transcripts suggests that the family caregivers perceived themselves to have inadequate information. Most of the information they received was regarding how to care for the THI victims' daily living activities. In reality, the family caregivers need more specific information. For example, they have information about how to deal with victims' changes especially emotional changes or how to care for bedsores. Thus, organized and comprehensive education programs can provide family caregivers with an opportunity to learn problem-solving skills and acquire the knowledge necessary to care for THI victims after discharge. This can lead the family caregivers to feel more secure and better able to plan realistically for the future.

Recommendation 5: The application of nursing case management in practice.

The findings in Chapter V of the present study showed that during hospitalisation, some of the family caregivers did not receive information in response to their needs. Moreover, when they return to community, there was no support available. The participants reported that if they were given adequate information or services or resources that they could access, they would be more able to address all their concerns about caring for the THI victims and adjusting to their problems. This phenomenon reflected that the health care system is not a good model of nursing case management practice and thus THI survivors cannot access the full continuum of care. This may effect survivors' rehabilitation or their quality of life.

Thus, acute care settings should implement appropriate nursing case management model in the health care delivery systems. This model can help family caregivers provide a full continuum of care both during hospitalisation and in the community, this model uses a patient-centered system, and a collaborative, interdisciplinary care process. It involves a challenge to nursing and health care to provide effective, efficient and quality health

care. The significant benefit of case management is the improvement of THI survivors' and their family caregivers' quality of life. Case management can affect the family caregivers' knowledge of THI rehabilitation needs, services, level of psychological, anxiety, and their competency in coping with THI.

Recommendation 6: Meet the educational needs of the family caregivers to THI survivors in the acute care setting.

The empirical data in Chapter V indicated that the family caregivers need some information needs for caring for THI survivors since in the acute care setting. In the acute care setting, the family caregivers were more focused on the THI survivors and the immediate implications of THI. Family caregivers emphasized the need for information specific to the THI victims' needs rather than general information about THI. Although health care providers may use booklet to give information about what happens in a head injury and the recovery process. Therefore, acute care nurses should assess the family caregivers' needs and then provide more detailed education programs, which include rehabilitation practices and information about the continuing effects of THI such as fatigue, poor concentration and attention, memory problems, lack of insight, slowed reactions, headache, loses of the ability to control emotional reactions.

6.1.2 Long-term Care

Recommendation 6: Health care providers should be more supportive of the family caregivers' decisions to make more use of traditional therapies integrated with Western biomedicine. The traditional medicine in health care system is also important approved system care.

The impression gained from discussion with caregivers suggested they want to integrate the Western medicine and folk wisdom to support the victims. Thai family caregivers in this study expressed their beliefs in traditional medicine such as massage and Thai herbal remedies to enhance the victims' prognosis. Western community based resources

are very scare yet caregivers have a lot of traditional Thai medicine available to support the caregiving role. Moreover, one coping strategy that families over the one year period involved supernatural powers or spiritual support. This kind of support is connected to religion and a belief in a higher power. These are the folkways of the Thai people. The Western medicine health care providers should recognize the benefits and integrate both modern and the traditional methods into the health care system so long as that method is not harmful to the victims. The promise of ancient healing and spiritual support are examples of family caregivers' social support. Thus health care providers should be aware of these beliefs. Sethabouppha (2002) suggested that Thai nurses and other health care providers should consider combining beliefs in traditional medicine with contemporary ones to enhance the family caregivers' psychological well-being.

Recommendation 7: Health care providers should apply religion and spiritual philosophy in nursing practice

The results from the present study, discussion in Chapter V also showed that religion and philosophy both Buddhist and Islamic appeared to influence Thai THI family caregivers' life styles. Buddhist practice helps the family caregivers face suffering, and especially helps with emotional support. Given that community resources are limited, this emotional support to the family caregivers is paramount. In addition, religious principles heavily influence the Thai life-style. Many people go to the temple or mosques. Thus, health care providers should attend to and understand the family caregivers' religious practices because these beliefs directly influence the way of life for Thai people. This finding indicated that health care providers should be sensitive to religious beliefs and integrate this in nursing interventions to promote quality caregiving and support the family caregivers' psychological well-being.

Recommendation 8: Meet the educational needs of the family caregivers in the community.

The findings presented in Chapter V indicated that family caregivers living in community had many concerns and information gaps regarding a number of issues related to caring for the THI survivors. They voiced concerns about the availability of appropriate health care services, such as home health care and the lack of rehabilitation units in the community. Moreover, they were not provided with adequate information on services or resources that are available. For example, their expression concern about being given information about emotional changes and behavior changes. Based on the new policy adopted by the Thai health care system which emphasizes the promotion of primary health care units to provide community health care, this finding may be useful to develop educational materials for THI family caregivers in regional settings and the better meet the family caregivers' needs.

Recommendation 9: Community nurses should use the disability assessment scale to help set appropriate cognitive rehabilitation programs.

The findings showed that most of THI victims had cognitive, behavioral and personality changes following the THI. All of these disabilities are likely to have a significant and often negative impact on the family caregivers and other family members, especially if the cognitive rehabilitation take a long time. This rehabilitation may take six months or may continue for years, although if THI victims start therapy early, recovery time can be reduced. Thus cognitive rehabilitation is very important for THI victims. Nurses in community settings should be aware of the value of early cognitive assessments of THI victims' degrees of disability. This data can provide the necessary baselines for making decisions in selecting the appropriate methods for enhancing THI victims cognitive rehabilitation early in their recovery process. Moreover, the assessment scale can help nurses monitor the THI victims' progress and effectively modify care plans.

Recommendation 10: Health care providers should have insight and understanding of the needs of particular groups of carers.

THI can occur in all age groups, but is most prevalent in the young adult group. Each group has particular needs for both victims and their family caregivers. Thus health care providers should know the particular problems that THI has raised for some special categories of people such as set appropriate guidelines describing what can be done to support the THI survivors and their family caregivers during hospitalisation and home based recovery.

6.2 Recommendations for Community Support Services

Recommendation 11: Coping strategies need to be implemented using a support group earlier in the initial stages of injury to help the family caregivers deal with the sudden crisis event

Based on the THI outcomes, most victims suffer multiple disabilities, especially if the victims are adults. THI is a crisis that profoundly alters the lives of affected individuals and family members both in the initial stages and long-term recovery due to chronic disability. Some family caregivers felt difficulty in dealing with this problem. In practice, if they have access to organize support groups early in their hospital experience, this can help family caregivers meet their own needs assisting them through this life-threatening event. At least, a support group can mitigate disruption to the family caregivers' social ties and provide support during their troubling experiences. In addition, health care providers in both hospitals and communities should try to integrate the educational needs of the family caregivers such as community resources, financial assistance, and rehabilitation education. The present findings showed no evidence of organized self-help groups. However, informal support networks were organized by the family caregivers themselves. They gave informal help to each other during the victims' hospitalisation period. In the long-term, this support group may relate to the THI victims' social support networks and the family caregivers in their communities.

6.3 Recommendations for Public Health Policy

Recommendation 12: Improve the primary health care unit potential for maximizing the THI victims' abilities.

THI is one of the major causes of disability in Thai adults, yet no attention is paid to the victims and their family caregivers' lives after victims are discharged from hospital. Moreover, caregivers are confronted with a lack of the community support and resources, which confound the impact of the stressful event. Lim and Ahn (2003) reported that the chronic illness of patients who live at home without health care might increase the risk of chronicity. The most important purpose of caring for victim's in the rehabilitation phase is to improve the victims' disabilities. Those THI victims with cognitive dysfunction often require care long after they leave the acute care setting. Recently, Thailand's policy has shifted to health promotion and encourages people in the community to acquire self-care skills. However, in reality, the primary health care unit potential is not adequate to support THI family caregiver needs. Thus, health care policy and primary health care units should design a program for supporting the community and provide consultations for the family caregivers on how to care for THI victims and how to cope when they are confronted with difficult events arising from victims' disabilities. A good model to follow may be found in Perth, Western Australia. The Headwest is the head injured society. The society's responsibilities take the forms of information centers and advocacy services. Its aim is to improve the quality of life for people with acquired brain injury and through advocacy, referral, information and community education to promote a greater community awareness of the impact of acquired brain injury on individual families, carers, and friends throughout Western Australia. This model may be applied to Thailand and integrated into the normal functioning of a primary health care unit. This may help to relieve the amount in disability of THI victims. In addition, if the THI victims have the appropriate and effective rehabilitation, it can rest in an early return to work, there by reducing the time of the dependency on their family caregivers.

Recommendation 13: Local governments should be concerned with THI families' long-term financial strain and provide appropriate support services.

The interviews of the family caregivers in Chapter V suggested that financial problems are the main source of the family caregiver distress and negative impact on family functioning. Now, the Thai Government has implemented third party insurance for traffic accidents. This insurance only supports treatment fees of not more than 50,000 baht. This means in 1,700 Australian dollar. Moreover, the Thailand Ministry of Public Health provides third party insurance to support the rest of the treatment fees, however this insurance is limited. Some of victims have other resources to help them with the cost of treatment such as the national Thirty Baht Project. This project is a Government subsidized treatment program. However, THI families have other financial responsibilities and problems. For example, their daily living payments and loss of income from the victims' disability. In this regard, the Government should have other funds available to support victims and their family members or expand the third party responsibilities to cover to THI families' daily living expenses until the victims can return to work. For example, the local Government should divide the provincial income from tourism-based businesses to instill specific systems of service delivery to support disabled THI victims and their family caregivers. The long-term goals should focus on a networked collaborative care system to enhance and to promote the continuity of care.

6.4 Recommendations for Nursing Education

The extended role of health care providers within the general public is important. The present study showed that health care providers, especially nurses, are the key persons to motivate community acceptance and to develop service provisions under the conditions of universal health care coverage. Moreover, nurses can act as trainers in teaching the family caregivers skills of in both the acute care setting and the community care. Thus, the implications for nursing education are very important. The issues that can be applied to nursing or other health care education programs are as follows:

1. The nursing or public health curriculum should contain instruction of the concepts of ASD, religion in nursing care, support group/self-help group, and information distribution skills. The nursing practice with chronically disabled clients should be integrated in community care and all health care settings in undergraduate level.

2. Health care curriculum should have training courses teaching skills in delivering bad news. For THI family caregivers, the bad news of the prognosis or uncertainty can be a heavy burden and psychological stressor.

6.5 Recommendations for Future Nursing Research

Previous research conducted into family caregiving was based on Western nations and the populations of their studies were elderly family caregivers. This study is specific to THI family caregivers in Thailand. Within Thailand's adult population, the number of people suffering from THI is likely increase. Most victims cannot return to work, so the outcome of THI leads the family caregivers to be confronted with many stressful events. THI also disturbs the family caregiver's psychological well-being after the injury. The present study only includes the assessment of ASD in the initial phase, but in the long-term, the family caregivers still have to deal with many difficulties in their lives. Thus the family caregivers may be prone to PTSD in the future. However, whether ASD is an accurate indicator of PTSD is still debatable. Therefore, future research should include an assessment of family caregivers' risk of developing post traumatic stress disorder.

Additionally, other family members were sometimes involved in caregiving, such as siblings. Therefore they should be included in future research to explore how THI impacts on them, their definition of THI, their sources of distress, their coping strategies or resources for dealing with stress, and whether or not the data differs from that of the primary caregivers.

The types of family bonding are another variable which may influence the impact of THI on the family caregivers. The present study found that the low-income families and

the families caring for victims who had the residual disabilities were especially in need of extra support. Thus, future research should aim to identify the at risk families. For example, the victims had behavioral, cognitive problem. Moreover, future research should compare the impact of THI on the family caregivers based on the types of family bond by quantitative methods.

Studies of Thai family caregivers, in particular caregivers to THI victims are few. As the meaning of caregiving differs from culture to culture, caregiving skills and experiences might vary as well (Tungpunkom, 2000). The present study only focuses on the Southern region of Thailand. In different regions, the family caregivers may or may not have different approaches to crisis events. This point still needs to be explored in the future.

This study, the researcher used the quantitative measuring tools which were developed mainly for English speaking Western cultures. It is suggested that future research should modify and adapt these quantitative tools so they can be reliably applied to Thai families. Such adaptation would make the instruments more suitable for the Thai culture and Thai context.

Next, the result from this study revealed that spiritual support includes religious faiths and a belief in a higher power. These principles are the dominant coping strategies adopted by family caregivers, able to give them hope and maintain their well-being. This study did not cover the in-depth details of their beliefs, or compare Buddhism with Islam. In the Thai culture, Buddhist beliefs play an important role in peoples' ways of life. The connection between the Buddhist philosophy and the meaning of THI was evident in the results. Karma appears to influence the family caregiver's perception and leads them to have hope, another coping strategy. Buddhist philosophy was found to promote the family caregivers' positive thinking, increase feelings of hope and acceptance of traumatic events. Future research should explore various aspects of Buddhism in THI family caregivers. In addition, evidence of spiritual support is scarce in the literature of the THI population and thus opens another area of potential exploration.

Finally, one of the family caregiver resources for dealing with THI was traditional Thai medicine and local wisdom, such as massage combined with incantations and herbal remedies. In reality, traditional Thai medicine has existed for a long time in Thai society but it is not dominant in modern medicine. However, in exploring the participants' ways of life, the findings showed that the family caregivers selected this resource as their alternative method of treatment; especially in the case chronic illnesses when they felt that modern medicine alone could not improve their family members symptoms. Currently, Thai health care policy promotes the value of folk wisdom, particularly Thai herbs, and efforts are being made to integrate them with modern medicine. Future studies should explore the ways of life and the kinds of herbs, which the family caregivers believe in, and the reasons why this local wisdom can help their THI members recover.

6.5 Conclusion

In conclusion, this study employed both quantitative and qualitative research methods to explore and describe the needs of families caring for victim of THI. The results provided in-depth insights into the THI family caregivers' views of the dynamic process of the impact of THI, sources of distress, coping strategies of the caregiver's role and resources for coping over the one-year period of the study. The results showed that in terms of the impact on family functioning, no significant differences were found between the initial stages of injury, six months and one year post injury at the 0.05 level of significance. Especially in the initial stages of injury, both moderate and severe THI family caregivers met the criteria for having ASD (76.92% and 78.95% respectively). However, the family caregivers psychological general well-being showed significant differences among three times at the 0.01 level of significance. In Time 3 the PGWBS scores better than in Time 1 and Time 2, yet the mean scores of the PGWBS over the three times were lower than in the normal population.

The present results showed that THI family caregivers perceived head injury as causing disability. The victims have residual disability, as well as cognitive, emotional,

behavioral, and physical changes. This finding is consistent with previous studies. In Time 1 of the study, the family caregivers' sources of distress related to the victims' prognosis. As time went on, the sources of distress changed. Time 2 is the period when family caregivers adapt to caring for the victims by themselves. The family caregiver sources of distress were focused on the caregiving activities. When victims are discharged from hospital they have residual disabilities, which family caregivers must deal with, and these activities affect the family caregivers. In Time 3, the sources of distress changed to focus on the victims' reactions. As mentioned, most of the victims had some residual disability. Most of them had cognitive impairment, emotional changes, and behavioral changes. Therefore, the family caregivers felt that this was a very difficult time for them.

The impact of THI on the family caregivers found in this study were financial problems and problems related to the family caregivers' psychological and general health. Their coping strategies changed based on the sources of distress, as did their definitions of THI. In the initial stages of injury and at six months, the family caregivers used combined problem-focused coping strategies and emotion-focused coping strategies. In Time 2 family caregivers expressed only emotion-focused coping strategies. An interesting finding was that the family caregivers used their religious beliefs and spiritual support to help them to confront the crisis event. Buddhism families in particular used the law of Karma and belief in a high power to cope with this stressful event. In another way, the family caregivers used local medical to complement modern medicine. This phenomenon was evident in Time 3 of the study, as the family caregivers used Thai herbs and massage in the victims' rehabilitation phase because they found that after six months of caring for the victims, modern medicine alone could not lead to improvement. Thus, traditional medicine is an alternative care method for victims.

Finally, in coping strategy resources, the results showed that after one year, the most significant resource available to support the family caregivers, was their family member. This may be based on their family commitments or the nature of Thai society where families are generally extended. When one of family members is ill, they help each

other. This is the strength of Thai families. However, the impact from THI not only disturbs the victims and their caregivers, but also other family members.

“The health service now has to learn to listen better to the public and be more guided by its wishes. It has to learn to trust them, to respect their opinions and respond to what they say. The people we serve should not be treated as mere passive recipients of care”

Brain Mawhinnery (Minister of Health)

Addressing the Federation of NHS Trusts

October, 1993.

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APPENDIX A
INSTRUMENTS (ENGLISH VERSION)

Demographic Characteristic of the THI Victims

Case Number.....

HN.....

Time of the Study.....

Date of Collecting Data.....

1. Sex

() Male

() Female

2. Age years old

3. Cause of injury.....

4. Severity

4.1 The Glasgow Coma Scale (GCS)

- Eye opening
- () 4 Opens eyes spontaneously
- () 3 Opens eyes in response to speech
- () 2 Opens eyes only to painful stimuli
- () 1 Does not open eyes to painful stimuli
- Verbal response
- () 5 Oriented to time, place, and person
- () 4 Converses, although confused
- () 3 Speaks only in words or phrases that make little or no sense
- () 2 Responses with incomprehensible sounds
- () 1 No verbal response
- Motor response
- () 6 Can obey a simple command
- () 5 Localizes to painful stimuli and attempts to remove source
- () 4 Purposeless movement in response to pain
- () 3 Flexes elbows and wrist while extending lower legs to pain
- () 2 Extends upper and lower extremities to pain
- () 1 No motor response to pain on any limb

4.2 Rancho Los Amigos Scale (RLA)

- () RLA 1: No response to pain, touch, sight or sound
- () RLA 2: Generalized reflex responses to pain
- () RLA 3: Localized response. Blinks to strong light, turns towards/
away from sound, response to physical discomfort,
inconsistent responses to commands
- () RLA 4: Confused-Agitated
- () RLA 5: Confused-Non agitated
- () RLA 6: Confused-Appropriate
- () RLA 7: Automatic-Appropriate
- () RLA 8: Purposeful-Appropriate

Demographic Characteristic of Caregivers

Case Number.....

Time of the Study.....

Date of Collecting Data.....

1. Sex ☐ Male☐ Female

2. Age years old

3. Relationship with THI victims

☐ Husband☐ Wife☐ Father☐ Mother☐ Daughter☐ Son☐ Older sister/brother☐ Younger sister/ brother☐ Other

4. Religion

☐ Buddhist☐ Muslim☐ Christian

5. Year of formal education Years

6. Occupation

7. Marital status

☐ Single☐ Married☐ Divorced

FAD-GFS

This questionnaire contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. For each statement. There are four possible responses: strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD)

SA Check SA if you feel that the statement describe your family very accurately.

A Check A if you feel that the statement describe your family for the most part.

D Check D if you feel that the statement does not describe your family for the most part.

SD Check SD if you feel that the statement does not describe your family at all.

1. In times of crisis we can turn to each other for support.

SA A D SD

2. Individuals are accepted for what they are.

SA A D SD

3. We can express feeling to each other.

SA A D SD

4. We feel accepted for what we are.

SA A D SD

5. We are able to make decision about how to solve problems.

SA A D SD

6. We confide in each other.

SA A D SD

7. Planning family activities is difficult because we misunderstand each other.

SA A D SD

8. We can not talk to each other about the sadness we feel.

SA A D SD

9. We avoid discussing our fears and concerns.

SA A D SD

10. There are lots of bad feelings in the family.

SA A D SD

11. Making decisions is a problem for our family.

SA A D SD

12. We don't get along well together.

SA A D SD

Stanford Acute Stress Reaction Questionnaire

DIRECTIONS: Below is a list of experiences people sometimes have during and after a stressful event. Please read each item carefully and decide how well it describes *your* experience since the stressful event described above. Refer to this event in answering the items that mention "the stressful event." Use the 0-5 point scale shown below and circle the number that best describes your experience.

0-----1-----2-----3-----4-----5
not very rarely rarely sometimes often very often
experienced experienced experienced experienced experienced experienced

1. I had difficulty falling or staying asleep. 0 1 2 3 4 5
2. I felt restless. 0 1 2 3 4 5
3. I felt a sense of timelessness. 0 1 2 3 4 5
4. I was slow to respond. 0 1 2 3 4 5
5. I tried to avoid feelings about the stressful event. 0 1 2 3 4 5
6. I had repeated distressing dreams of the stressful event. 0 1 2 3 4 5
7. I felt extremely upset if exposed to events that reminded
me of an aspect of the stressful event. 0 1 2 3 4 5
8. I would jump in surprise at the least thing. 0 1 2 3 4 5
9. The stressful event made it difficult for me to
perform work or other things I needed to do. 0 1 2 3 4 5
10. I did not have the usual sense of who I am. 0 1 2 3 4 5
11. I tried to avoid activities that reminded
me of the stressful event. 0 1 2 3 4 5
12. I felt hypervigilant or "on edge". 0 1 2 3 4 5
13. I experienced myself as though I were a stranger. 0 1 2 3 4 5
14. I tried to avoid conversations about the stressful event. 0 1 2 3 4 5

- | | | | | | | | |
|-----|---|---|---|---|---|---|---|
| 15. | I had a bodily reaction when exposed to reminders of the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 16. | I had problems remembering important details about the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 17. | I tried to avoid thoughts about the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 18. | Things I saw looked different to me from how I know they really looked. | 0 | 1 | 2 | 3 | 4 | 5 |
| 19. | I had repeated and unwanted memories of the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 20. | I felt distant from my own emotions. | 0 | 1 | 2 | 3 | 4 | 5 |
| 21. | I felt irritable or had outbursts of anger. | 0 | 1 | 2 | 3 | 4 | 5 |
| 22. | I avoided contact with people who reminded me of the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 23. | I would suddenly act or feel as if the stressful event was happening again. | 0 | 1 | 2 | 3 | 4 | 5 |
| 24. | My mind went blank. | 0 | 1 | 2 | 3 | 4 | 5 |
| 25. | I had amnesia for large periods of the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |
| 26. | The stressful event caused problems in my relationships with other people. | 0 | 1 | 2 | 3 | 4 | 5 |
| 27. | I had difficulty concentrating. | 0 | 1 | 2 | 3 | 4 | 5 |
| 28. | I felt estranged or detached from other people. | 0 | 1 | 2 | 3 | 4 | 5 |
| 29. | I had a vivid sense that the stressful event was happening all over again. | 0 | 1 | 2 | 3 | 4 | 5 |
| 30. | I tried to stay away from places that reminded me of the stressful event. | 0 | 1 | 2 | 3 | 4 | 5 |

The Psychological General Well-Being Schedule

PLEASE READ: *This section of the examination contains questions about how you feel and how things have been going with you. For each question tick [] the answer which best applies to you.*

1. How have you been feeling in general? (*DURING THE PAST MONTH*)

- 5[] In excellent spirits.
- 4[] In very good spirits.
- 3[] In good spirits mostly.
- 2[] I have been up and down in spirits a lot.
- 1[] In low spirits mostly.
- 0[] In very low spirits.

2. How often were you bothered by any illnesses, bodily disorder, aches or pains? (*DURING THE PAST MONTH*)

- 0[] Every day.
- 1[] Almost every day.
- 2[] About half of the time.
- 3[] Now and then, but less than half the time.
- 4[] Rarely.
- 5[] None of the time.

3. Did you feel depressed? (*DURING THE PAST MONTH*)

- 0[] Yes-to the point that I felt like taking my life.
- 1[] Yes-to the point that I did not care about anything.
- 2[] Yes-very depressed almost every day.
- 3[] Yes-quite depressed several times.
- 4[] Yes-a little depressed now and then.
- 5[] No-never felt depressed at all.

4. Have you been feeling in firm control of your behaviour, thoughts, emotions, or feelings? (*DURING THE PAST MONTH*)

- 5[] Yes, definitely so.
- 4[] Yes, for the most part.
- 3[] Generally so.
- 2[] Not too well.
- 1[] No, I am somewhat disturbed.
- 0[] No, and I am very disturbed.

5. Have you been bothered by nervousness or your "nerves"? (*DURING THE PAST MONTH*)

- 0[] Extremely so-to the point where I could not work or take care of things.
- 1[] Very much so.
- 2[] Quite a bit.
- 3[] Some - enough to bother me.
- 4[] A little.
- 5[] Not at all.

6. How much energy, pep, or vitality did you have or feel? (*DURING THE PAST MONTH*)

- 5[] very full of energy - lots of pep.
- 4[] Fairly energetic most of the time
- 3[] My energy level varied quite a bit.
- 2[] Generally low in energy or pep.
- 1[] Very low in energy or pep most of the time.
- 0[] No energy or pep at all—I felt drained, sapped.

7. I felt downhearted and blue (*DURING THE PAST MONTH*)

- 5[] None of the time.
- 4[] A little of the time.
- 3[] Some of the time.
- 2[] A good bit of the time.
- 1[] Most of the time.
- 0[] All of the time.

8. Were you generally tense or did you feel any tension? (*DURING THE PAST MONTH*)

- 0[] Yes-extremely tense, most or all of the time.
- 1[] Yes - very tense most of the time.
- 2[] Not generally tense, but did feel fairly tense several times.
- 3[] I felt a little tense a few times.
- 4[] My general tension level was quite low.
- 5[] I never felt tense or any tension at all.

9. How happy, satisfied, or pleased have you been with your personal life? (*DURING THE PAST MONTH*)

- 5[] Very happy most of the time.
- 4[] Generally happy most of the time.
- 3[] Generally satisfied - pleased.
- 2[] Sometimes fairly happy, sometimes fairly unhappy.
- 1[] Generally dissatisfied, unhappy.
- 0[] Very dissatisfied or unhappy most or all of the time.

10. Did you feel healthy enough to carry out the things you like to do or had to do? (*DURING THE PAST MONTH*)

- 5[] Yes - definitely so.
- 4[] For the most part.
- 3[] Health problems limited me in some important ways.
- 2[] I was only healthy enough to take care of myself.
- 1[] I needed some help in taking care of myself.
- 0[] I needed someone to help me with most or all of the things I had to do.

11. Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? (*DURING THE PAST MONTH*)

- 0[] Extremely so - to the point that I have just about given up.
- 1[] Very much so.
- 2[] Quite a bit.
- 3[] Some - enough to bother me.
- 4[] A little bit.
- 5[] Not at all.

12. I woke up feeling fresh and rested (*DURING THE PAST MONTH*)

- 0[] None of the time.
- 1[] A little of the time.
- 2[] Some of the time.
- 3[] A good bit of the time.
- 4[] Most of the time.
- 5[] All of the time.

13. Have you ever been concerned, worried, or had any fears about your health? (*DURING THE PAST MONTH*)

- 0[] Extremely so.
- 1[] Very much so.
- 2[] Quite a bit.
- 3[] Some, but not a lot.
- 4[] Practically never.
- 5[] Not at all.

14. Have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel or your memory? (*DURING THE PAST MONTH*)

- 5[] Not at all.
- 4[] Only a little.
- 3[] Some-but not enough to be concerned or worried about.
- 2[] Some and have been a little concerned.
- 1[] I Some and I am quite concerned.
- 0[] Yes, very much so and I am very concerned.

15. My daily life was full of things that were interesting to me (*DURING THE PAST MONTH*)

- 0[] None of the time.
- 1[] A little of the time.
- 2[] Some of the time.
- 3[] A good bit of the time.
- 4[] Most of the time.
- 5[] All of the time.

16. Did you feel active, vigorous, or dull, sluggish? (*DURING THE PAST MONTH*)

- 5[] Very active, vigorous every day.
- 4[] Mostly active, vigorous - never really dull.
- 3[] Fairly active, vigorous - seldom dull, sluggish.
- 2[] Fairly dull, sluggish - never really active, vigorous.
- 1[] Mostly dull, sluggish - never really active vigorous.
- 0[] Very dull, sluggish every day.

17. Have you been anxious, worried or upset? (*DURING THE PAST MONTH*)

- 0[] Extremely so - to the point of been sick or almost sick.
- 1[] Very much so.
- 2[] Quite a bit.
- 3[] Some - enough to bother me.
- 4[] A little bit.
- 5[] Not at all.

18. I was emotionally stable and sure of myself (*DURING THE PAST MONTH*)

- 0[] None of the time.
- 1[] A little of the time.
- 2[] Some of the time.
- 3[] A good bit of the time.
- 4[] Most of the time.
- 5[] All of the time.

19. Did you feel relaxed, at ease or high strung, tight, or keyed-up (*DURING THE PAST MONTH*)

- 5[] Felt relaxed at ease the whole month.
- 4[] Felt relaxed and at ease most of the month.
- 3[] Generally felt relaxed but at times felt fairly high strung.
- 2[] Generally felt high strung but at times felt fairly relaxed.
- 1[] Felt high strung, tight, or keyed-up most of the time.
- 0[] Felt high strung, tight or keyed-up the whole month.

20. I felt cheerful, light hearted (*DURING THE PAST MONTH*)

- 0[] None of the time.
- 1[] A little of the time.
- 2[] Some of the time.
- 3[] A good bit of the time.
- 4[] Most of the time.
- 5[] All of the time.

21. I felt tired, worn out, used up, or exhausted (*DURING THE PAST MONTH*)

- 5[] None of the time.
- 4[] A little of the time.
- 3[] Some of the time.
- 2[] A good bit of the time.
- 1[] Most of the time.
- 0[] All of the time.

22. Have you been under, or felt you were under any strain, stress, or pressure? (*DURING THE PAST MONTH*)

- 0[] Yes - almost more than I could bear or stand.
- 1[] Yes - quite a bit of pressure.
- 2[] Yes, some - more than usual.
- 3[] Yes, some - but about usual.
- 4[] Yes - a little.
- 5[] Not at all.

Interview Guide

Period 1 : Interview guide

1. Please describe your perception of THI-What does it mean to you?
2. When you meet THI people, how did you feel?
3. What are the feelings of the family and you during the hospitalisation of your member?
4. How has the hospitalisation of one family member affected the everyday activities of your family?
5. Which frightened you the most when hearing your family member have got THI? Why?
6. Who is the first one you think of when hearing THI of your family member?
7. When you first come aware of your family member, can you describe?
8. Tell me about your thoughts, behaviors and feelings over the first few days of the critical care experience?
9. What is family's perception of this THI event?
10. What are family's coping mechanisms?
11. What is the most important thing for you want to know right now about your injured family member?
12. What is your perception of your family member prognosis?
13. How did you become the caregiver for your relative?
14. How did you feel when having about your family member's injuries? What did you do?

Period 2: Interview guide (Six month)

1. How do you feel at this period?

2. Tell me about your daily life during the time of taking care of your relative?
3. How you availability of situation support?
4. Since the time you take role as family caregiver, what was been the most difficult thing for you to deal with?
5. How does this affect your family life now?
6. How can you maintain your situation?
7. What is the source of your hope at this time?
8. If you could identify a source of hope for yourself, what would it be?
9. What is your perception of your relative prognosis?
10. What problems occur overtime?
11. What community service can be provided?
12. How did you find the balance point in a transitional state from hospital to home?
13. What things do you need to balance with caregiving?
14. Identify your supportive system either within or outside your family.
15. Can you describe how your health has been?
16. Tell me about some decision you have made regarding the care of your relative. What caused you to make these decisions? What were the consequences of these decisions?
17. What is your most difficult decision?
18. How has your life change since you become the caregiver?
19. Can you describe how your decisions have changed over time?

Period 3: Interview guide (1 year)

Can you tell me about your day and life during this time of taking care of your relative?

2. How satisfied are you with the way that you have adapted to your relative illness?
3. What are words best describes how you feel about your relative injured?
4. Since the time you take role as family caregiver until now, what was been the most difficult thing for you to deal with?
5. What is the focus of your hope at this time?
6. If you could identify a source of hope for yourself, what would it be?
7. What is your perception of your relative prognosis?

8. What problems occur overtime?
9. What community service can be providing?
10. What things do you need to balance with caregiving?
11. Can you describe how your health has been?
12. Tell me about some decision you have made regarding the care of your relative.
What caused you to make these decisions? What were the consequences of these decisions?
13. What is your most difficult decision?
14. How has your life change since you become the caregiver?
15. Can you describe how your decisions have changed over time?
16. Which factors help you to come to this point?

APPENDIX B
INSTRUMENTS (THAI VERION)

ข้อมูลส่วนบุคคลเกี่ยวกับผู้ป่วย

ผู้ป่วยลำดับที่

เก็บข้อมูลครั้งที่

HN.....

เก็บข้อมูลวันที่

1. เพศ () ชาย () หญิง
2. อายุปี
3. สาเหตุการบาดเจ็บ
4. ความรุนแรงของการบาดเจ็บ
 - GCS

การลืมตา () 4 : ลืมตาได้เอง () 3 : ลืมตาเมื่อเรียก () 2 : ลืมตาเมื่อเจ็บ () 1 : ไม่ลืมตา

การสื่อสาร () 5 : พูดคุยได้ไม่สับสน () 4 : พูดคุยได้แต่สับสน () 3 : พูดเป็นคำ ๆ () 2 : ส่งเสียงไม่เป็นคำพูด () 1 : ไม่ออกเสียงเลย

การเคลื่อนไหว () 6 : ทำตามสั่งได้ () 5 : ทราบตำแหน่งเจ็บ () 4 : ชักแขนขาหนีเมื่อทำให้เจ็บ () 3 : งอแขนขาเมื่อเจ็บ () 2 : เขยียดแขนขาเมื่อเจ็บ () 1 : ไม่เคลื่อนไหว

- Rancho Los Amigos Scale (RLA)
- RLA1: ไม่ตอบสนองทั้งทางสายตา เสียง สัมผัส หรือความปวด

RLA2: มีปฏิกิริยาตอบสนองไม่เฉพาะที่ต่อการกระตุ้นหรือความเจ็บปวด

RLA3: มีปฏิกิริยาตอบสนองเฉพาะที่เช่นกระพริบตาเมื่อถูก

แสง หันหน้าหนีหรือหันหน้าตามเสียง มีการตอบสนองต่อความไม่สุขสบายต่างๆ
ทางด้าน

ร่างกาย มีการตอบสนองที่ไม่ตรงคำสั่ง

RLA 4: สับสน โวยวาย มีความตื่นตัวมาก ก้าวร้าว
หรือมีพฤติกรรมที่แปลกประหลาด มีกิจกรรมหรือการเคลื่อนไหวที่ไม่มีจุดหมาย
มีช่วงเวลาของ

ความสนใจสั้น

RLA 5: สับสนแต่ไม่โวยวาย มีความสนใจต่อสิ่งแวดล้อมมาก พุดจาสับสน ไขว้เขว
ยังต้องการการดูแลและชี้แนะอยู่ การเรียนรู้เรื่องใหม่ๆเกิดขึ้นยาก
จะโวยวายเมื่อมีสิ่งกระตุ้นที่มากเกินไป

RLA 6 : สับสน แต่มีพฤติกรรมที่เหมาะสมขึ้นกว่าเดิม เช่น มีการรับรู้เรื่องกาล เวลา
สถานที่ แต่ยังไม่ถูกต้อง จำเหตุการณ์ในอดีตได้ แต่ความจำในปัจจุบันยังบกพร่องอยู่
ทำตามสิ่งง่าย ๆ ได้ มีพฤติกรรมที่มีเป้าหมายมากขึ้น แต่ยังต้องการการดูแลช่วยเหลือ

RLA7:ทำตามสั่งได้ดีในรายที่ไม่สับสนจะสามารถทำกิจวัตร

ประจำวันได้มากกว่าปกติ แต่การทำตามคำสั่งนั้นยังมีลักษณะเหมือนหุ่นยนต์
เรื่องทักษะ

ต่าง ๆ ยังบกพร่องอยู่

RLA 8: มีพฤติกรรมที่เหมาะสม ทำอะไรสมเหตุสมผล
มีเป้าหมายชัดเจนเหมือนคนปกติ

แบบสอบถามข้อมูลส่วนบุคคลของญาติ

ข้อมูลลำดับที่ เก็บข้อมูลครั้งที่.....
วัน เดือน ปี

คำชี้แจง กรุณาตอบแบบสอบถามเกี่ยวกับตัวท่าน โดยทำเครื่องหมาย
หน้าข้อที่ตรงกับตัวท่าน หรือเติมคำลงในช่องว่าง

- 1. เพศ () ชาย () หญิง
- 2. อายุปี
- 3. ความสัมพันธ์กับผู้ป่วย
 () สามี () ภรรยา () บิดา
 () มารดา () บุตรสาว () บุตรชาย
 () พี่ () น้อง () อื่น ๆ ระบุ
- 4. ศาสนา
 () พุทธ () อิสลาม () คริสต์
- 5. จำนวนปีที่ศึกษาปี
- 6. อาชีพ

7. สถานภาพสมรส

() โสด

() គុំ

() หย่า/แยก

แบบประเมินความสามารถในการทำหน้าที่ของครอบครัว

คำชี้แจง

แบบสอบถามนี้เป็นแบบสอบถามเกี่ยวกับความสามารถในการทำหน้าที่ของ

ครอบครัวท่านหลังผู้ป่วยประสบอุบัติเหตุโดยทำเครื่องหมายลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด

เห็นด้วยอย่างยิ่งหมายถึง ท่านเห็นด้วยว่าความสามารถในการทำหน้าที่ของครอบครัวท่าน

ตรงกับข้อคำถามนั้นมากที่สุด

เห็นด้วย หมายถึง ท่านเห็นด้วยว่าความสามารถในการทำหน้าที่ของครอบครัวท่าน

ตรงกับข้อคำถามนั้นมาก

ไม่เห็นด้วย หมายถึง

ท่านไม่เห็นด้วยกับความสามารถในการทำหน้าที่ของครอบครัวของท่าน

ไม่เห็นด้วยอย่างยิ่งหมายถึง

ท่านไม่เห็นด้วยอย่างมากกับความสามารถในการทำหน้าที่ของครอบครัวของท่าน

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. ในช่วงเวลาการเกิดภาวะวิกฤต คนในครอบครัวสามารถหันหน้าเข้าหากันเพื่อช่วยเหลือซึ่งกันและกัน				
2. แต่ละคนในครอบครัวต่างยอมรับในเหตุการณ์ที่เขาเผชิญอยู่				
3. คนในครอบครัวสามารถแสดงออกถึงความรู้สึกซึ่งกันและกัน				
4. คนในครอบครัวยอมรับในสิ่งที่ตน เป็นอยู่				
5. คนในครอบครัวสามารถตัดสินใจว่าจะแก้ปัญหาที่เกิดขึ้นได้อย่างไร				
6. คนในครอบครัวไว้ใจซึ่งกันและกัน				

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
7. เป็นการยากลำบากในการวางแผนกิจกรรมภายในครอบครัวเพราะต่างไม่เข้าใจซึ่งกันและกัน				
8. คนในครอบครัวไม่สามารถบอกกล่าวถึงความรู้สึกใดก็ตามซึ่งกันและกัน				
9. คนในครอบครัวหลีกเลี่ยงที่จะพูดถึงความกลัวและสิ่งที่กังวลหรือเป็นปัญหา				
10. มีความรู้สึกไม่ดีหลายอย่างเกิดขึ้นภายในครอบครัว				

11. การทำการตัดสินใจเป็นปัญหาสำหรับครอบครัวของเรา				
12. คนในครอบครัวไม่สามารถเข้ากันได้				

แบบประเมินความวิตกกังวล

คำชี้แจง แบบสอบถามนี้เป็นแบบประเมินความวิตกกังวลของท่านหลังผู้ป่วยประสบอุบัติเหตุโดยทำเครื่องหมาย ลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด

ข้อความ	ไม่เกิดเลย	แทบจะไม่เกิด	ไม่ค่อยเกิด	เกิดขึ้นบ้างครั้ง	เกิดขึ้นบ่อย	เกิดขึ้นบ่อยมาก
1. ฉันรู้สึกหวั่นไหว						
2. ฉันรู้สึกกระสับกระส่าย						
3. ฉันรู้สึกว่าสูญเสียความเป็นส่วนตัว/ไม่มีเวลาว่าง						
4. ฉันมีการตอบสนองช้า						
5. ฉันพยายามหลีกเลี่ยงความรู้สึกเครียดต่อเหตุการณ์ที่เกิดขึ้น						

6. ฉันมักฝันร้ายอยู่เสมอเกี่ยวกับเหตุการณ์ที่เกิดขึ้น						
7. ฉันรู้สึกอารมณ์เสียถ้าต้องเผชิญกับเหตุการณ์ที่ทำให้ฉันย้อนคิดถึงเหตุการณ์ตึงเครียดนั้น ๆ						
8. ฉันรู้สึกตกใจได้ง่ายกับเรื่องเล็ก ๆ น้อย ๆ						
9. เหตุการณ์ตึงเครียดนี้ทำให้ฉันยากที่จะทำงานหรือทำในสิ่งอื่นที่ฉันต้องการจะทำ						
10. ฉันรู้สึกว่าฉันไม่ใช่คนเดิมอย่างที่เคยรู้สึก						
11. ฉันพยายามหลีกเลี่ยงกิจกรรมที่จะทำให้ฉันย้อนคิดถึงเหตุการณ์ตึงเครียดนี้						
12. ฉันรู้สึกว่าตัวเองตกอยู่ในภาวะอันตราย						
13.ฉันรู้สึกเหมือนว่าฉันเป็นคนแปลกหน้า						
ข้อความ	ไม่เกิดเลย	แทบจะไม่เกิด	ไม่ค่อยเกิด	เกิดขึ้นบ้างครั้ง	เกิดขึ้นบ่อย	เกิดขึ้นบ่อยมาก
14. ฉันพยายามหลีกเลี่ยงที่จะพูดถึงเหตุการณ์ตึงเครียดที่เกิดขึ้น						
15. ร่างกายของฉันมีปฏิกิริยาเมื่อต้องเผชิญกับสิ่งกระตุ้นถึงเหตุการณ์ตึงเครียดที่เกิดขึ้น						
16. ฉันมีปัญหาในการจดจำเกี่ยวกับรายละเอียดของเหตุการณ์ตึงเครียดที่เกิดขึ้น						
17. ฉันพยายามหลีกเลี่ยงที่จะคิดถึงเหตุการณ์ที่เกิดขึ้น						
18. ฉันมองสิ่งต่าง ๆ แตกต่างจากสิ่งที่ฉันรู้ว่าคุณจริงมันเป็นอย่างไร						

19. ฉันมักมีความจำเกี่ยวกับเหตุการณ์ตึงเครียดซ้ำ ๆ ทั้งที่ไม่ต้องการ						
20. ฉันมีสภาพอารมณ์ที่ไม่เหมือนเดิม						
21. ฉันรู้สึกหงุดหงิดหรือมีอารมณ์โกรธ						
22. ฉันหลีกเลี่ยงการพบปะกับผู้ที่ทำให้ฉันต้องคิดถึงเหตุการณ์ตึงเครียดนั้น						
23. ฉันมักแสดงออกหรือมีความรู้สึกกลัวกับว่าเหตุการณ์ตึงเครียดนั้นได้เกิดขึ้นซ้ำอีก						
24. ฉันรู้สึกจิตใจว่างเปล่า						
25. ฉันมีอาการหลงลืมต่อเหตุการณ์ตึงเครียดเป็นช่วงเวลานาน						
ข้อความ	ไม่เกิดเลย	แทบจะไม่เกิด	ไม่ค่อยเกิด	เกิดขึ้นบ้างครั้ง	เกิดขึ้นบ่อย	เกิดขึ้นบ่อยมาก
26. เหตุการณ์ตึงเครียดนี้เป็นสาเหตุที่ก่อให้เกิดปัญหาระหว่างสัมพันธภาพของฉันกับบุคคลอื่น						
27. ฉันรู้สึกยากที่จะรวบรวมหรือมีสมาธิ						
28. ฉันรู้สึกว่าตนเองห่างเหิน/ปลีกตัวออกจากผู้อื่น						
29. ฉันรู้สึกว่าเหตุการณ์ตึงเครียดทั้งหมดนี้เกิดขึ้นกับฉันอีก						
30. ฉันพยายามที่จะอยู่ห่างจากสถานที่ที่ทำให้ฉันคิดถึงเหตุการณ์ตึงเครียดที่เกิดขึ้น						

แบบประเมินความผาสุกทางใจ

คำชี้แจงโปรดกาเครื่องหมายหน้าข้อที่ตรงกับความคิดเห็นของท่านมากที่สุด

1. ในช่วงเดือนที่ผ่านมา โดยทั่วไปแล้วท่านมีความรู้สึกอย่างไร
- | | |
|-------------------------|--------------------------|
| () 5 สดชื่นมากที่สุด | () 4 สดชื่นมาก |
| () 3 สดชื่นค่อนข้างมาก | () 2 สดชื่นเป็นบางครั้ง |
| () 1 ส่วนใหญ่ไม่สดชื่น | () 0 ไม่สดชื่นเลย |

2. ในช่วงเดือนที่ผ่านมาท่านถูกรบกวนจากภาวะเจ็บป่วย ความผิดปกติของร่างกาย
 ความเจ็บหรือความปวดบ้อยแค่ไหน
 () 0 ทุกวัน () 1 เกือบทุกวัน () 2 ประมาณ 50% ของเวลาที่มี
 () 3 น้อยกว่า 50% ของเวลาที่มี () 4 รู้สึกถูกรบกวนมาก
 () 5 ไม่รู้สึกถูกรบกวน
3. ในช่วงเดือนที่ผ่านมาท่านรู้สึกซึมเศร้าบ้างไหม
 () 0 ใช่ เคยมีบางครั้งถึงกับคิดทำร้ายตนเอง
 () 1 ใช่ เคยมีบางขณะรู้สึกไม่อยากสนใจอะไรทั้งสิ้น
 () 2 ใช่ ฉันรู้สึกซึมเศร้ามากแทบทุกวัน
 () 3 ใช่ ฉันรู้สึกค่อนข้างซึมเศร้าหลายครั้ง
 () 4 ใช่ ฉันรู้สึกซึมเศร้าเป็นบางครั้ง
 () 5 ไม่ใช่ ฉันไม่เคยรู้สึกซึมเศร้าเลย
4. ในช่วงเดือนที่ผ่านมาท่านรู้สึกมั่นคงหรือสามารถควบคุมหรือกำหนด
 พฤติกรรม ความคิด อารมณ์ หรือความรู้สึกของท่านใช่หรือไม่
 () 5 ใช่ ถูกต้องที่สุด () 4 ใช่ โดยส่วนใหญ่จะเป็นเช่นนั้น
 () 3 ใช่ โดยทั่วไปจะเป็นเช่นนั้น () 2 ไม่ค่อยจะเป็นเช่นนั้น
 () 1 ไม่ บางครั้งรู้สึกอารมณ์ ความคิดดังกล่าวยากจน
 () 0 ไม่ใช่ ฉันรู้สึกว่าอารมณ์ ความคิดดังกล่าวยากจนมาก
5. ในช่วงเดือนที่ผ่านมาท่านถูกรบกวนโดยความรู้สึกกระวนกระวายใจ
 หรือถูกกระตุ้นให้โกรธมากน้อยเพียงใด
 () 0 มากที่สุด จนทำให้ทำงานไม่ได้ () 1 มาก () 2 ปานกลาง
 () 3 มีบ้าง () 4 น้อย () 5 ไม่มีเลย
6. ในช่วงเดือนที่ผ่านมาท่านมีพลังหรือชีวิตชีวาอย่างน้อยเพียงใด
 () 5 ฉันรู้สึกมีพลังและชีวิตชีวา
 () 4 ฉันมีพลังเกือบตลอดเวลา
 () 3 ฉันรู้สึกมีพลังในระดับปกติ
 () 2 ฉันรู้สึกว่าโดยทั่วไปฉันมีพลังและมีชีวิตชีวาน้อย
 () 1 ฉันรู้สึกว่าโดยทั่วไปฉันมีพลังและชีวิตชีวาน้อยมาก
 () 0 ฉันรู้สึกตนเองไม่มีพลัง ไม่มีชีวิตชีวา หหมดแรง และรู้สึกอ่อนแอ

7. ในช่วงเดือนที่ผ่านมาท่านรู้สึกเศร้า หดกำลังใจและหดหูหรือไม่
 () 5 ไม่เคยเลย () 4 ส่วนน้อย () 3 บางเวลา
 () 2 บ่อยครั้ง () 1 เกือบตลอดเวลา () 0 ตลอดเวลา
8. ในช่วงเดือนที่ผ่านมาท่านรู้สึกมีความตึงเครียดหรือมีความกดดันหรือไม่
 () 0 ใช่ ตึงเครียดตลอดเวลา () 1 มีตึงเครียดเกือบตลอดเวลา
 () 2 โดยทั่วไปไม่ค่อยมีความตึงเครียด
 () 3 รู้สึกตึงเครียดเล็กน้อย มีเพียงไม่กี่ครั้ง
 () 4 โดยทั่วไปรู้สึกมีความตึงเครียดน้อยมาก
 () 5 ไม่ค่อยมีความรู้สึกตึงเครียดหรือมีความกดดันเลย
9. ในช่วงเดือนที่ผ่านมาท่านมีความสุข พอใจ หรือดีใจกับชีวิตส่วนตัวของท่านมากน้อยเพียงใด
 () 5 มีความสุขมากตลอดเวลา () 4 โดยทั่วไปมีความสุขตลอดเวลา
 () 3 โดยทั่วไปรู้สึกพอใจ () 2 มีความสุขในบางครั้ง
 () 1 โดยทั่วไปไม่รู้สึกพอใจและไม่มีความสุข
 () 0 รู้สึกไม่พึงพอใจและไม่มีความสุขเลย
10. ในช่วงเดือนที่ผ่านมาท่านรู้สึกว่าท่านมีความสุขภาพดีพอที่จะ
 ดำเนินการในสิ่งที่ท่านต้องการจะทำหรือไม่
 () 5 ใช่ () 4 ใช่เป็นส่วนใหญ่
 () 3 ปัญหาสุขภาพเป็นข้อจำกัดในบางครั้ง
 () 2 ฉันมีสุขภาพที่แข็งแรงพอสำหรับการดูแลตนเองเท่านั้น
 () 1 บางครั้งต้องการความช่วยเหลือในการดูแลตนเอง
 () 0 ฉันต้องการความช่วยเหลือในการทำกิจกรรมทุกอย่าง
11. ในช่วงเดือนที่ผ่านมาท่านรู้สึกเศร้า เสียกำลังใจ หดหวัง
 หรือมีปัญหามากมายจนทำให้รู้สึกว่าไม่มีอะไรในโลกนี้มีคุณค่า
 () 0 ใช่ บางครั้งรู้สึกท้อ () 1 ใช่ ส่วนใหญ่จะเป็นเช่นนั้น
 () 2 ใช่ ค่อนข้างจะเป็นเช่นนั้น () 3 มีบ้าง จนบางครั้งก็ทำให้รู้สึก
 () 4 มีบ้าง แต่น้อย () 5 ไม่มีเลย
12. ในช่วงเดือนที่ผ่านมาท่านตื่นนอนด้วยความสดชื่นและรู้สึกพักผ่อนอย่างเพียงพอ

- () 0 ไม่เคยเลย () 1 มีบ้างเล็กน้อย () 2 เป็นบางครั้ง
 () 3 ใช่ เหมือนทั่ว ๆ ไป () 4 เกือบทุกครั้ง () 5 ทุกครั้ง
13. ในช่วงเดือนที่ผ่านมาท่านเคยรู้สึกเป็นห่วง กังวล หรือกลัวเกี่ยวกับสุขภาพของท่านบ้างหรือไม่
 () 0 ใช่ ถูกต้องที่สุด () 1 ใช่ โดยส่วนใหญ่
 () 2 ใช่ เล็กน้อย () 3 เป็นบางครั้ง แต่ไม่มาก
 () 4 ในทางปฏิบัติไม่เคยมี () 5 ไม่ใช่
14. ในช่วงเดือนที่ผ่านมาท่านคิดบ้างไหมว่าตัวท่านเกิดอาการขาดสติ ควบคุมตนเองไม่ได้ในการแสดงออกด้าน
 กิริยา การพูดจา ความรู้สึก ความคิด ความจำ
 () 5 ไม่เคยเลย () 4 มีน้อย
 () 3 มีบ้าง แต่ไม่มากที่จะทำให้ต้องใส่ใจ
 () 2 มีบ้างและฉันใส่ใจเพียงเล็กน้อย
 () 1 มีบ้าง และฉันใส่ใจค่อนข้างมาก
 () 0 ใช่ และใส่ใจมาก
15. ในช่วงเดือนที่ผ่านมาท่านรู้สึก่วชีวิตประจำวันของท่านเต็มไปด้วยสิ่งที่น่าสนใจ
 () 0 ไม่เลย () 1 เป็นบางครั้ง () 2 เป็นบางครั้ง แต่ไม่มาก
 () 3 ใช่ เล็กน้อย () 4 ใช่ โดยส่วนใหญ่ () 5 ใช่ ถูกต้องที่สุด
16. ในช่วงเดือนที่ผ่านมาท่านรู้สึกมีความกระตือรือร้น กระฉับกระเฉงหรือไม่สดชื่น เฉื่อยชาหรือไม่
 () 5 กระตือรือร้นมาก กระฉับกระเฉงทุกวัน
 () 4 โดยส่วนใหญ่กระตือรือร้น กระฉับกระเฉง ไม่เคยรู้สึกไม่สดชื่น
 () 3 กระตือรือร้น กระฉับกระเฉงบางครั้ง นาน ๆ จึงรู้สึกไม่สดชื่นและเฉื่อยชา
 () 2 บางครั้งรู้สึกไม่สดชื่นเฉื่อยชา ไม่เคยรู้สึกกระตือรือร้นหรือกระฉับกระเฉงเลย
 () 1 โดยส่วนใหญ่รู้สึกไม่สดชื่นเฉื่อยชา ไม่เคยรู้สึกกระตือรือร้นหรือกระฉับกระเฉงเลย
 () 0 รู้สึกไม่สดชื่น และเฉื่อยชาทุกวัน
17. ในช่วงเดือนที่ผ่านมาท่านมีความวิตกกังวลหรือผิดหวังหรือไม่
 () 0 มากที่สุด จนทำให้เจ็บป่วยหรือเกือบเจ็บป่วย
 () 1 มาก () 2 ปานกลาง
 () 3 มีบ้าง พอที่จะส่งผลให้เป็นที่รำคาญแก่ตัวเอง
 () 4 น้อย () 5 ไม่มีเลย

18. ในช่วงเดือนที่ผ่านมาท่านมีอาการที่คงที่และมีความมั่นใจในตนเอง

- () 0 ไม่เคยเลย () 1 เป็นบ้างแต่ส่วนน้อย () 2 เป็นบางครั้ง
() 3 บ่อย () 4 เกือบตลอดเวลา () 5 ตลอดเวลา

19. ในช่วงเดือนที่ผ่านมาท่านรู้สึกผ่อนคลาย สบายหรือตึงเครียดอึดอัด

- () 5 รู้สึกผ่อนคลาย สบายตลอด
() 4 รู้สึกผ่อนคลาย สบายเกือบตลอดเวลา
() 3 โดยทั่วไปรู้สึกผ่อนคลาย แต่บางครั้งรู้สึกตึงเครียด
() 2 โดยทั่วไปรู้สึกตึงเครียดแต่บางครั้งรู้สึกผ่อนคลาย
() 1 รู้สึกตึงเครียด อึดอัดเกือบตลอดเวลา
() 0 รู้สึกตึงเครียด อึดอัดตลอดเวลา

20. ในช่วงเดือนที่ผ่านมาท่านรู้สึกสบายใจ เบาใจ

- () 0 ไม่เลย () 1 ส่วนน้อย () 2 เป็นบางครั้ง
() 3 น้อย () 4 เกือบตลอดเวลา () 5 ตลอดเวลา

21. ในช่วงเดือนที่ผ่านมาท่านรู้สึกเหนื่อย อ่อนล้า หดแรงแรง

- () 5 ไม่เคย () 4 ส่วนน้อย () 3 เป็นบางครั้ง
() 2 บ่อย () 1 เกือบตลอดเวลา () 0 ตลอดเวลา

22. ในช่วงเดือนที่ผ่านมาท่านรู้สึกว่าความรู้สึกของท่านอยู่ภายใต้ความกดดัน ตึงเครียดหรือไม่

- () 0 ใช่ว่าจนเกือบทนไม่ได้ () 1 ใช่มาก
() 2 ใช่มาก มีบ้าง มากกว่าปกติ () 3 ใช่มาก เท่าปกติ
() 4 ใช่มาก มีน้อย () 5 ไม่มีเลย

แนวคำถามการสัมภาษณ์

การเก็บข้อมูลระยะที่ 1

1. ช่วยอธิบายถึงการรับรู้ของคุณที่มีต่อการบาดเจ็บที่ศีรษะ คุณให้ความหมายว่าอย่างไร
2. คุณรู้สึกอย่างไรเมื่อเห็นผู้บาดเจ็บ
3. คุณและสมาชิกในครอบครัวมีความรู้สึกอย่างไรระหว่างที่ผู้บาดเจ็บต้องพักรักษาตัวในโรงพยาบาล
4. การนอนโรงพยาบาลของผู้บาดเจ็บส่งผลกระทบต่อกิจวัตรประจำวันของครอบครัวคุณอย่างไร
5. อะไรที่ทำให้คุณกลัวมากที่สุดเมื่อรับทราบว่าสมาชิกในครอบครัวประสบอุบัติเหตุ เพราะเหตุใด
6. คุณคิดถึงใครเป็นคนแรกเมื่อคุณรับทราบว่าสมาชิกในครอบครัวประสบอุบัติเหตุ
7. คุณสามารถอธิบายถึงความรู้สึกแรกของคุณได้หรือไม่ อย่างไร
8. ช่วยเล่าถึงความคิดพฤติกรรมความรู้สึกของคุณในช่วงสองสามวันแรกที่ต้องเผชิญกับประสบการณ์วิกฤตนี้
9. สมาชิกในครอบครัวของคุณรับรู้ต่อเหตุการณ์ครั้งนี้อย่างไรบ้าง
10. การเผชิญปัญหาของคนในครอบครัวเป็นอย่างไร
11. สิ่งใดที่คุณต้องการทราบมากที่สุดเกี่ยวกับการบาดเจ็บ
12. คุณคิดว่าการพยากรณ์โรคของผู้บาดเจ็บเป็นอย่างไร
13. ทำไมคุณจึงมารับบทบาทเป็นญาติผู้ดูแลในครั้งนี้
14. คุณรู้สึกอย่างไรที่สมาชิกในครอบครัวประสบอุบัติเหตุ คุณทำอย่างไร

การเก็บข้อมูลระยะที่ 2

1. ขณะคุณรู้สึกอย่างไร
2. ช่วยเล่าเกี่ยวกับการดำเนินชีวิตขณะที่คุณรับบทบาทญาติผู้ดูแล
3. คุณหาสิ่งสนับสนุนสถานการณ์ที่ต้องรับบทบาทผู้ดูแลอย่างไร
4. ตั้งแต่ที่คุณรับบทบาทญาติผู้ดูแล อะไรคือสิ่งที่ยากสำหรับคุณ
5. บทบาทดังกล่าวส่งผลกระทบต่อชีวิตความเป็นอยู่ในครอบครัวอย่างไร
6. คุณดำรงสถานการณ์นั้นไว้ได้อย่างไร
7. สิ่งใดที่คุณใช้เป็นความหวัง
8. จากข้อ 7 ลองช่วยเล่าถึงสิ่งที่คุณใช้เป็นแหล่งของความหวังนั้น
9. การรับรู้ของคุณต่อการพยากรณ์โรคของผู้บาดเจ็บเป็นอย่างไร
10. มีปัญหาใดบ้างที่เกิดขึ้นตลอดเวลา
11. การบริการในชุมชนใดที่สามารถจัดหาได้
12. คุณหาสิ่งที่จะช่วยในการรักษาความสมดุลจากการที่ต้องมีการย้ายผู้ป่วยจากโรงพยาบาลไปอยู่บ้านอย่างไร
13. สิ่งใดที่คุณต้องการใช้ในการรักษาความสมดุลในการดูแลผู้บาดเจ็บ
14. ช่วยเล่าถึงระบบสนับสนุนในการดูแลผู้บาดเจ็บที่ได้รับทั้งจากภายในครอบครัวและภายนอกครอบครัว
15. ขณะนี้สุขภาพของคุณเป็นอย่างไรบ้าง
16. ขณะที่คุณดูแลผู้บาดเจ็บคุณได้ทำหน้าที่ในการตัดสินใจอะไรไปบ้างสาเหตุที่ทำให้คุณต้องตัดสินใจคืออะไรและผลจากการตัดสินใจนั้นเป็นอย่างไร
17. การตัดสินใจใดที่ยากสำหรับคุณ
18. ตั้งแต่คุณมารับบทบาทญาติผู้ดูแล ชีวิตของคุณเปลี่ยนไปหรือไม่ อย่างไร
19. ช่วยเล่าให้ฟังว่าการตัดสินใจของคุณมีการเปลี่ยนแปลงตลอดเวลาหรือไม่ อย่างไร

การเก็บข้อมูลระยะที่ 3

1. ช่วยเล่าถึงชีวิตความเป็นอยู่ของคุณในขณะนี้ว่าเป็นอย่างไร
2. คุณรู้สึกพึงพอใจหรือไม่อย่างไรต่อการปรับตัวของคุณต่อการการเจ็บป่วยของญาติ

3. คำพูดที่คุณคิดว่าเหมาะในการที่จะใช้ในการอธิบายถึงความรู้สึกของคุณต่อการบาดเจ็บของญาติคุณคืออะไร
4. ตั้งแต่ที่คุณรับบทบาทญาติผู้ดูแล สิ่งใดยากที่สุดสำหรับคุณ
5. ความหวังของคุณในขณะนี้คืออะไร
6. อะไรคือแหล่งความหวังของคุณ
7. ขณะนี้การรับรู้ต่อการพยากรณ์โรคของคุณเป็นอย่างไร
8. มีปัญหาใดที่เกิดขึ้นตลอดเวลา
9. การให้บริการในชุมชนใดบ้างที่สามารถจัดหาได้
10. สิ่งใดที่คุณต้องการเพื่อรักษาความสมดุล/เพื่อให้สามารถดูแลผู้ป่วยต่อไปได้
11. ขณะนี้สุขภาพของคุณเป็นอย่างไร
12. ขณะที่คุณดูแลผู้บาดเจ็บ คุณได้ทำหน้าที่ในการตัดสินใจอะไรไปบ้าง
สาเหตุที่ทำให้คุณต้องตัดสินใจคืออะไร และผลจากการตัดสินใจนั้นเป็นอย่างไร
13. สิ่งใดที่คุณรู้สึกว่ายากแก่การตัดสินใจ
14. ตั้งแต่รับบทบาทญาติผู้ดูแล ชีวิตของคุณเปลี่ยนไปอย่างไรบ้าง
15. ช่วยเล่าให้ฟังว่าการตัดสินใจของคุณมีการเปลี่ยนแปลงตลอดเวลาหรือไม่ อย่างไร
16. มีปัจจัยใดที่ช่วยให้คุณสามารถยืนหยัดอยู่ได้

APPENDIX C

CONSENT FORM (ENGLISH VERSION)

CONSENT FORM (THAI VERSION)

Proposed Consent Form

Vachira Phuket Hospital

353 Yaovarach Road

Amphur Mung, Phuket, 83000

Dear family member,

My name is Miss Chayanit Luevanich. I am a PhD student at School of Nursing and Public Health at Edith Cowan University, Australia. I am conducting a study exploring the impact of head injuries on families.

To conduct the study, I would need you to agree complete questionnaires three times over the coming year. I may also need to interview you three times during the year. If you are agreeable, I would come to your home to conduct the later interviews. I would like to tape recorder during the interviews, but if you would not have the interview tape recorded, that is fine and not problem. You can be assured that all questionnaires, interviews, field notes, and tape recordings will remain confidential, and your name will not be used in the research. If you later change your mind about taking part in the study, you have the right to withdraw at any time. You have my assurance that if you choose not to take part in the study, it will not affect the treatment or care your relative presently or may receive in the future.

I hope you will support this study. I believe the results will be very valuable for health care workers to deliver better support services to families in your situation.

I thank you for your support. If you have any questions, please contact me at [REDACTED] call [REDACTED] I will be more than happy to discuss the study with you.

Yours most sincerely,

Chayanit Luevanich RN, SBC (Nursing) M.N.S. (Adult Nursing)
Dr David Roberts, RN, RMHN, Ba, Msc, PhD -- Principal Supervisor

CONSENT FORM

A Longitudinal Study Exploring the Impact of Moderate or severe Traumatic Head Injuries on Family Caregivers

- I have read the information above and any questions I have asked have been answered to my satisfaction.
- I agree to participate in this activity, realising I may withdraw at any time.
- I agree that the research data gathered for this study may be published provided I am not identifiable

Name.....

Telephone number.....

Address.....

.....

Signature.....

Date...../...../.....

พิทักษ์สิทธิ์ผู้เข้าร่วมวิจัย

โรงพยาบาลวชิระภูเก็ต
353 เยาวราช อ.เมือง
จ.ภูเก็ต 83000

เรียน สมาชิกทุกท่าน

เนื่องด้วยดิฉันนางสาวชญานิศ ลีอวานิช
คณะพยาบาลศาสตร์และสาธารณสุขศาสตร์
ประเทศออสเตรเลียจะได้ทำงานวิจัยในระดับปริญญาเอกเรื่อง
"ผลกระทบจากการบาดเจ็บที่ศีรษะที่มีต่อญาติผู้ดูแล"
ในการนี้ดิฉันจะดำเนินการเก็บข้อมูลด้วยแบบสอบถามและสัมภาษณ์ท่าน
3ระยะตลอดระยะเวลาปีโดยการเก็บข้อมูลผู้วิจัยขออนุญาตทำการบันทึกเสียงและทำการบันทึกภา
คสนามโดยการเก็บข้อมูลจะไม่ปรากฏชื่อท่านในแบบสอบถามท่านสามารถปฏิเสธการเข้าร่วมโครงก
การวิจัยได้เมื่อท่านไม่สะดวกและการปฏิเสธของท่านจะไม่ส่งผลกระทบใดๆต่อการรักษาของ ผู้ป่วย
ดิฉันหวังเป็นอย่างยิ่งว่าจะได้รับความร่วมมือจากท่าน
และคาดว่าผลการวิจัยดังกล่าวจะมีคุณค่ายิ่งต่อบุคลากรสาธารณสุขในการพัฒนาระบบบริการแก่ญ
าติและผู้ป่วย
ดิฉันขอบคุณในความร่วมมือของท่านหากท่านมีข้อสงสัยประการ
ใด ท่านสามารถติดต่อสอบถามได้ ณ หมายเลข [redacted] ต่อ [redacted]

ด้วยความเคารพ

(นางสาวชญานิศ ลีอวานิช)

ใบแสดงการเข้าร่วมในการวิจัย

ข้าพเจ้าได้อ่านรายละเอียดของข้อมูลดังกล่าวข้างต้น
และตกลงใจที่จะเข้าร่วมในงานวิจัยครั้งนี้และรับทราบถึงวิธีการเก็บ
รวบรวมข้อมูล รวมทั้งการเสนอผลการวิจัยจะไม่ปรากฏชื่อผู้เข้าร่วมวิจัย

ชื่อผู้เข้าร่วมวิจัย.....
หมายเลขโทรศัพท์
ที่อยู่
.....

ลายเซ็นผู้เข้าร่วมวิจัย วัน/เดือน/ปี.....

APPENDIX D

LETTER FROM HUMAN RESEARCH ETHIC COMMITTEE

LETTER FROM APPROVING INSTRUMENT



**EDITH COWAN
UNIVERSITY**

PERTH WESTERN AUSTRALIA
CHURCHLANDS CAMPUS

Pearson Street, Churchlands
Western Australia 6018
Telephone (08) 9273 8333
Facsimile (08) 9387 7095

ABN 54 361 485 361

5th July 2001

Human Research Ethics Committee

Ms Chayanit Luevanich



Dear Ms Luevanich

Code: 01-87

Project Title: *A Longitudinal Study Exploring the Impact of Moderate or Severe Traumatic Head Injuries on Family Caregivers*

Thank you for incorporating the changes into your proposal as requested by members of the Human Research Ethics Committee.

I am pleased to advise that the proposal now complies with the provisions contained in the University's policy for the conduct of ethical research, and your application for ethics clearance has been approved.

Period of approval: From 2nd July 2001 To 31st May 2002

Please note that your research proposal must be approved by the Research Students and Scholarships Committee before you commence any data collection. The Graduate School will inform you in writing as soon as your research proposal has been accepted.

With best wishes for success in your work.

Yours sincerely



TAMARA WARRY
Executive Officer

Attachment: Conditions of Approval

cc. Dr David Roberts, Supervisor

JOONDALUP CAMPUS
100 Joondalup Drive, Joondalup
Western Australia 6027
Telephone (08) 9400 5555

MOUNT LAWLEY CAMPUS
2 Bradford Street, Mount Lawley
Western Australia 6050
Telephone (08) 9370 6111

CHURCHLANDS CAMPUS
Pearson Street, Churchlands
Western Australia 6018
Telephone (08) 9273 8333

CLAREMONT CAMPUS
Goldsworthy Road, Claremont
Western Australia 6010
Telephone (08) 9442 1333

ECU SOUTH WEST CAMPUS (BUNBURY)
Robertson Drive, Bunbury
Western Australia
Telephone (08) 9780 7777

ที่ ทม 1205/๗๗๘



คณะพยาบาลศาสตร์
มหาวิทยาลัยสงขลานครินทร์
ตู้ ปณ. 9 ปทผ.คอหงส์
อ.หาดใหญ่ จ.สงขลา 90112

๒ พฤษภาคม 2544

เรื่อง ตอบรับเชิญเป็นผู้ทรงคุณวุฒิในการตรวจสอบความตรงตามเนื้อหาของเครื่องมือวิจัย
เรียน นางสาวญานิต ลือวานิช
อ้างถึง หนังสือที่ - ลงวันที่ 10 เมษายน 2544

ตามหนังสือที่อ้างถึง - ได้เชิญ ผศ.ดร.วันดี สุทธรังษี อาจารย์ประจำภาควิชาการพยาบาลจิตเวช เป็นผู้ทรงคุณวุฒิในการตรวจสอบความตรงตามเนื้อหาของเครื่องมือวิจัย เพื่อจัดทำโครงการวิจัย ซึ่งเป็นส่วนหนึ่งในการศึกษา เรื่อง "A Longitudinal Study Exploring the Impact of Traumatic Head Injuries on Family Caregivers" ของ นางสาวญานิต ลือวานิช นั้น

คณะพยาบาลศาสตร์ มหาวิทยาลัยสงขลานครินทร์ ได้พิจารณาแล้วไม่ขัดข้อง และยินดีให้ ผศ.ดร.วันดี สุทธรังษี เป็นผู้ทรงคุณวุฒิในการตรวจสอบความตรงตามเนื้อหาของเครื่องมือวิจัยเรื่องดังกล่าวได้

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

(รองศาสตราจารย์สุเนตตรา ตะบูนพงศ์)

รองคณบดีฝ่ายวิจัยและบัณฑิตศึกษา ปฏิบัติราชการแทน
คณบดีคณะพยาบาลศาสตร์

สำนักงานเลขานุการ

โทร. (074) 213060

โทรสาร. (074) 212901

ที่ ทม 0342/638



คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
อาคารวิทยกิตติ์ ชั้น 12
ถนนพญาไท กรุงเทพฯ 10330
โทร. 2189800-30 โทรสาร 2189806

๒๔ เมษายน 2544

เรื่อง อนุญาตให้อาจารย์ในสังกัดเป็นผู้ทรงคุณวุฒิในการตรวจสอบความตรงตามเนื้อหาของ
เครื่องมือวิจัย

เรียน นางสาว ชญานิศ ลือวานิช

ตามที่ นางสาวชญานิศ ลือวานิช ได้เรียนเชิญ อาจารย์ ดร. จิราพร เกศพิชญวัฒนา เป็น
ผู้ทรงคุณวุฒิในการตรวจสอบความตรงตามเนื้อหาของเครื่องมือวิจัย ในการศึกษาเรื่อง “A longitudinal
Study Exploring the Impact of Traumatic Head Injuries on Family Caregivers” นั้น คณะพยาบาล-
ศาสตร์พิจารณาแล้วยินดีอนุญาตให้อาจารย์ในสังกัดเป็นผู้ทรงคุณวุฒิในการตรวจสอบความตรงตาม
เนื้อหาของเครื่องมือวิจัยดังกล่าวได้

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ



(รองศาสตราจารย์ ดร. จินตนา ยูนิพันธุ์)
คณบดีคณะพยาบาลศาสตร์

งานสารบรรณ
โทร. 2189811
โทรสาร 2189806