THE EFFECTIVENESS OF AN EMPOWERMENT PROGRAM ON CARE-GIVING ABILITY, SELF-EFFICACY AND SELF-ESTEEM AMONG FAMILY CAREGIVERS OF CEREBROVASCULAR DISEASE PATIENTS

PUANGTONG PETCHTONE

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ABSTRACT

This research was aimed to study the effectiveness of an empowerment program that might lead to the improvement of care-giving ability, self-efficacy, and self-esteem of family caregivers of cerebrovascular disease patients.

The research was quasi-experimental, based on one-group pre/post test design. The sample comprised 30 cerebrovascular disease patients who were admitted to Siriraj hospital and their family caregivers. The sample participated in the empowerment program based on Gibson's concept of empowerment. The program stressed learning through participation in individual and group activities i.e., to learn about the disease and train to develop skills in caring for cerebrovascular disease patients.

Evaluation criteria in this research were comprised the followings variables : care-giving ability, self-efficacy, and self-esteem. Data were collected at pre-intervention and post-intervention, and analyzed by using descriptive statistics, and paired t-test.

Results revealed that after empowerment program, the family caregivers of patients with cerebrovascular disease had significantly increased care-giving ability, self-efficacy and self-esteem (p-value< 0.001).

This study showed the effectiveness of the empowerment program in improving care-giving ability, self-efficacy, and self-esteem of the family caregivers of cerebrovascular disease. Strategies to implement an empowerment program in regular practice are recommended. This empowerment program based on Gibson's concept might be applied to family caregivers of patients with other chronic diseases as well.

KEY WORDS : EMPOWERMENT PROGRAM/CARE-GIVING ABILITY/ SELF-EFFICACY/ SELF-ESTEEM/FAMILY CAREGIVERS/ CEREBROVASCULAR DISEASE PATIENT

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ประสิทธิผลของโปรแกรมการสร้างพลังต่อความสามารถในการดูแลผู้ป่วย ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแลผู้ป่วยโรคหลอดเลือดสมอง (THE EFFECTIVENESS OF EMPOWERMENT PROGRAM ON CARE-GIVING ABILITY, SELF-EFFICACY AND SELF-ESTEEM AMONG FAMILY CAREGIVERS OF CEREBROVASCULAR DISEASE PATIENTS)

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาประสิทธิผลของโปรแกรมการสร้างพลังต่อความสามารถในการดูแลผู้ป่วย ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแลผู้ป่วยโรคหลอดเลือดสมอง

การวิจัยนี้เป็นการวิจัยกึ่งทดลอง แบบ 1 กลุ่ม วัดผลก่อนและหลังการทดลอง กลุ่มตัวอย่างประกอบด้วยญาติผู้ดูแลผู้ป่วยโรคหลอดเลือดสมองที่มารับการรักษาในโรงพยาบาลศิริราชจำนวน 30 คนและผู้ป่วยจำนวน 30 คน ญาติผู้ดูแลที่เข้าร่วมในการวิจัยได้รับการสร้างพลังตามกิจกรรมที่กำหนดขึ้นตามกระบวนการของกิบสัน โดยกิจกรรมที่จัดขึ้นเป็นแบบรายบุคคลการเรียนรู้แบบมีส่วนร่วม และกระบวนการกลุ่ม เพื่อให้ทราบถึงรายละเอียดเกี่ยวกับโรคหลอดเลือดสมอง และการฝึกทักษะในการให้การดูแลผู้ป่วยโรคหลอดเลือดสมอง ผลการวิจัยพบว่า การสร้างพลังตามแนวคิดของกิบสัน มีผลทำให้ความรู้และความสามารถในการดูแลผู้ป่วย ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแลผู้ป่วยโรคหลอดเลือดสมองเพิ่มขึ้นอย่างมีนัยสำคัญทางสถิติ (p-value<0.001) โดยพบว่า คะแนนเฉลี่ยหลังสิ้นสุดกิจกรรมสูงกว่าก่อนการทดลอง

ผลการวิจัยครั้งนี้แสดงว่าการสร้างพลังตามแนวของกิบสันส่งผลต่อการพัฒนาระดับความสามารถในการดูแลผู้ป่วย ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแลช่วยส่งเสริมให้เกิดความมั่นใจในการดูแลผู้ป่วยโรคหลอดเลือดสมองในระยะเปลี่ยนผ่านจากโรงพยาบาลสู่สังคม ควรสร้างกลไกในการนำรูปแบบการสร้างพลังไปใช้ในการปฏิบัติจริงและควรขยายผลสู่กลุ่มญาติผู้ดูแลผู้ป่วยโรคเรื้อรังอื่นๆ ต่อไป

150 หน้า 974-04-4244-7

CONTENTS

CONTENTS (Cont.)

LIST OF TABLES

LIST OF FIGURE

CHAPTER I
INTRODUCTION

Background and Rationale

Cerebrovascular disease is an important and mostly found neurological disease that the patients have to be hospitalized (Limapichart, K. 1991: 334). It's a serious disease that can cause public health problem for many countries. Because this disease can cause long term disability, high morbidity and high mortality (Tosayanont, O. 1996: 539-60). In the United States of America (USA) and Europe, cerebrovascular disease was ranked third among the first ten leading causes of death. In addition, among the first ten leading causes of death in Thailand, cerebrovascular disease was ranked the sixth according to the data from the Health Association of Thailand (2000: 185). The majority of the patients were the elderly. Seventy-five percent of the patients were over 65 years old (Puangvarin, N. 2001: 16-7; Lugger, 1994: 78). It was said that every minute 1.2 cerebrovascular patents were found without any warning signs and symptoms which resulted in 270,000 persons who died of this disease each year (Hatcher, et al. 1985:35)

In general, the cerebrovascular disease patients will survive the first during 30 days after the disease had occurred, but 90% of the patients will remain disabled (Periard & Ames, 1993: 252). According to the data of the Ministry of Public Health, during the past 10 years, the death rate due to cerebrovascular disease, on the average was 20-30 % depending on the damaged site type of the disease and age of the patients. The trend of the death rate from cerebrovascular disease has been higher because of the increase in proportion of old age group (Chitapankul, S. 1999: 1; Poomriew R. et al., 1997: 40-53). From the community prevalence survey of cerebrovascular disease in Thailand, it revealed that the prevalence rate was 690

100,000 population (Viriyavejakul, A. 1983: 485-6) which was comparable to the world wide incidence of 500-1,000 per :100,000 population (Terent, 1993: 37-58). Among the in-patients of all hospitals throughout Thailand, cerebrovascular disease was ranked the sixth and the third for the hospitals in Bangkok. Cerebrovascular disease can cause chronic disability, which needs medical care like other chronic diseases. It causes abundant economical loss. The direct cost in Thailand was estimated to be at least 100,000 bahts/case per year (Society of Cerebrovascular Disease Thailand, 1998: 13). The study of Dowson (1998: 189-90) showed that one-third the cases would be die within 1 month after the onset, 90 % of the survivors would live with residual defect, 40 % with mild deficits, 40 % with moderate and severe deficits, and another 10% needed close and long term care. The neurological deficits and disabilities after recovery from the disease were hemiplegic limbs, impaired body balance and ambulation, difficult to swallow and speak, impaired visual perception, thinking process, mood and behavioral control, impaired sensory perception, and loss of bowel and bladder control (Taboonpong N.et al., 1994: 1-13 ; 337). This can influence psychological reactions in both patients and the family caregivers. Physical disability in cerebrovascular disease patient also caused psychological changes such as aggression, impatience, stress, negativism and depression (Thongtang, O. 1992: 623). This situation affected and resulted in a lower quality of life satisfaction for cerebrovascular disease patients (Janobrom, S. 1992: 44).

Many studies confirmed that reinforcement from family could hasten recovery (Kotila, 1984: 1044; Toedler, 1995: 719). There was a positive correlation between social support from family and quality of life on the patients found in a study, conducted in Thailand (Singkumfu, L. 1989: 107). However, many revealed the conflict among the patients' caregivers, stating that the patients were their burden. So, a family caregiver should be properly trained in order to prevent fear, conflict in self-esteem and reluctance for judgement that in turn would affect the quality of patient care (Brown, 1996:28-30).

Furthermore, caregiving is a complex, difficult, and unfamiliar task for many family caregivers; thus, it could lead to the family caregiver's feeling of exhaustion and irritation resulting from insufficient rest, irregular eating habits, and encounter with emotional disturbance of the patients as well as the rehabilitative problems at home (Periard & Ames, 1993: 252-56; Foxall, Eckbery and Giffith, 1986 cited in DesRosier, et al. 1992: 88). Buddhawan, N. (2002: 83) studied the factors influencing health status of caregivers of postoperative neurosurgical patients. About thirty-six percent of primary caregivers had some diseases or illnesses before becoming caregivers, while 62.7% developed physical symptoms, diseases or illnesses during caregiving. The sicknesses these caregivers experienced included dizziness, irregular heartbeat, cold hands and feet, upset stomach, headache, or some psychological conditions such as anxiety, worry depression or insomnia. This finding was consistent with that of Kaewgun, N. (1990) which indicated that caregivers of neurosurgical patients experienced aching limbs, shoulder pain, backache, neck pain, and muscle pain, which resulted from lifting, carrying or helping rehabilitate the patients. Also, a study conducted with the wives of chronic patients, discovered that during caregiving, as many as 76.92% of caregivers had such health problems as lack of energy, fatigue, insomnia, irregular heartbeat, loss of appetite, headache, and shortness of breath (Gasemgitvatana, S. 1993). As a result, these family caregivers might experience the feelings of despair, hopelessness, and anxiety (Tirapaiwong, P. 1997; Hirunchunha, S. 1998).

A preliminary study was conducted to explore the problems and needs of family caregivers of neurosurgical patients who were admitted at 72/4 Neurosurgical Ward, Siriraj Hospital in 2001-2002. The data were collected from 100 family caregivers. The majority of the family caregivers were females (78%) whose ages ranged from 31-40 years old, averages 38 years old. More than half of the family caregivers were married. The largest group of the subjects. (49%) completed elementary education. In addition, 49% had insufficient income. The largest of this group were the patients' sons and daughters, 29% were spouses of the patients, 62% of family caregivers never had any experience in caring cerebrovascular disease patients. The study was aimed to assess the needs of cerebrovascular diseases caregivers in regard to : spiritual support ; psychological support ; household

management ; physical health ; financial and materials ; and information regarding patient care. It was found that the need ranked first was psychological support, followed by the need for more time from the health care team to listen to the problems and questions, the need from family members to help solve the problems and to listen to the problems, alleviating their stress, and gaining more confidence in providing care. This finding was consistent with that of Chuangsawadsak, S. (1998: 67-8) which assessed the needs of 120 relatives who were caregivers of patients with cerebrovascular disease. The need that mostly expressed by the caregivers included spiritual, psychological, household management, physical, financial and material and information needs. The finding of this research showed that the overall mean score and the mean scores of each section were in the middle level. Beside the problems and needs, many family caregivers of cerebrovascular disease patients tend to exhibit diminished self-esteem when they realize they have to live with disabled patients. This low self-esteem can cause powerlessness and dependency that make them had problems in caring for the patients in the future. Persons who have low self-esteem do not continue to care of themselves and others (Whall, 1987: 41). Empowerment is a crucial strategy to enhance self-esteem, and self-efficacy.

Empowerment refers to the ability of people to gain understanding and control over personal, social, economic and political forces in order to take action to improve their situation (Israel, et al., 1994: 152). Individual or psychological empowerment is defined as an individual's ability to make decisions and have control over his or her personal life. It is similar to other constructs such as self-efficacy and self-esteem in its emphasis on development of a positive self-concept or personal competence (Israel, et al., 1994). Empowerment of individuals combines (1) personal efficacy and competence, (2) a sense of mastery and control (3) a process of participation to influence institutions and decisions. As a result empowering the individual means he/she will be part of the organizational process or group of people who are interested in the same issues. Empowerment by a group process approach in order to change individual behavior is appropriate for addressing health problems. From her research on mothers of chronically ill children, Gibson (1991: 354-61; 1995: 1201-10) concurred with

Kieffer (1984: 9-36) on the components of the process of empowerment are (1) discovering reality, (2) critical reflection, (3) taking charge, and (4) holding on.

Empowerment is both the process and target of public health development. By promoting participation in group discussion to share knowledge, attitude and experience, the participants finally can identify the cause of their problems and this find the resolution. In view of health, empowerment is aimed to modify health behaviors at all levels such as individual, organization, and community (Rappaport, 1994: 1-7).

Empowerment means more than promotion of self-esteem and ability, but the process that help individual, organization and community to find the way of self control and predict their future outcome which will later put positive effect back to individual (Gibson, 1991: 354). Empowerment helps people to thoroughly analyze the cause of their problems and be ready to solve them with wisdom. These will have on the increase of control of environmental factors that influence on them, and development of good quality of life for them and community (Gibson, 1991: 335). Furthermore, the process can promote self-confidence (Wallerstein, 1992: 198) and reduce sense of powerless and depression (Smith, 1985: 1260-1).

As mentioned, before the trends of cerebrovascular disease were regarded as a major health problem in Thailand. It effected so much on the patient himself, family, health team, and enormous loss both in individual resources, social and economical potency. Since the high incidence of depression among family caregivers about caring cerebrovascular disease patients after discharge from hospital, and its effect on outcome of patient's rehabilitation and also quality of life, including the frustration and unconfidence of family caregivers, an empowerment model of Gibson (Gibson, 1995: 1201-10) was proposed as a holistic approach for these patients. It was aimed to promote knowledge and care ability, self-efficacy, and self-esteem among family caregivers of cerebrovascular disease patients. It was expected that the process would provide benefit for the patients, family caregivers, health team, the hospital, and community. By conducting the process, family caregivers of cerebrovascular

disease patients with depression would be empowered for the state of self and environmental control. They were able to solve their problems.

Participatory learning was used including activities of group process, sharing group-experience, discussions, brainstorming and skills training on providing supportive and effective communication. The health education strategies would initiate and lead to empowerment for care-giving ability, self-esteem and self-efficacy among family caregivers of cerebrovascular disease patients.

Research Questions

Would the empowerment program be effect in increasing care-giving ability, self-efficacy, and self-esteem among family caregiver of cerebrovascular disease patients?

Research Objectives

General objective: To assess the effectiveness of an empowerment program regarding increasing care-giving ability, self-efficacy and self-esteem among family caregivers of cerebrovascular disease patients.

Specific objectives

To study behavior change among family caregivers of cerebrovascular disease patients after participating in the empowerment process organized, as follows:

1. Care-giving ability of cerebrovascular disease patients ;
2. Self-efficacy ; and
3. Self-esteem.

Research Hypotheses

After participating in the receiving empowerment program, the family caregivers of cerebrovascular disease patients would have increased in:

1. Care-giving ability of cerebrovascular disease patients ;
2. Self-efficacy ; and
3. Self-esteem.

Scope of the Study

This research was organized for the in cerebrovascular disease patients and their family caregivers admitted in 72/4 Neurosurgical Ward of Siriraj Hospital, with the aim to empower the family caregivers who take care for the cerebrovascular disease patients during November, 2002 – May, 2003.

Variables of the Study

1. Independent variable : the empowerment program
2. Dependent variables :
   - Care-giving ability of cerebrovascular disease patients among family caregivers
   - Self-efficacy and self-esteem among family caregivers

Definition of Terms

Empowerment program refers to the process that empowers the family caregivers of cerebrovascular disease patients by encouraging participation in activity in accordance with Gibson's theory (Gibson, 1995: 1201-10). There were four steps in the process: discovering reality, critical reflection, taking charge, and holding on.

Cerebrovascular disease patients refer to all patients diagnosed as cerebrovascular disease according to the definition defined by the National Survey of Stroke of USA. (Panthumchinda K., 1997: 3), that is an acute neurological syndrome cause of by disorder of cerebral blood vessels and last more than 24 hours.

Family caregivers refer to the primary caregivers who are not healthcare team members and who provide care to the cerebrovascular disease patients at home after discharge from the hospital. Family caregivers can be parents, spouses, children, siblings, relatives, or significant persons in the patients's life. They do not receive any reward or monetary return for their service, and they have to look after the patients for more than three consecutive weeks.

Care-giving ability refers to the capability of family caregivers in providing care for cerebrovascular disease patients at home for the period of at least three weeks after the patient was discharged from the hospital. This capability involves knowledge and experience in decision, and value given to health as assessed by the Denyes & Filday Dependent-Care Agency Instrument constructed by Denyes and Filday (Denyes, 1986: 63).

Self-efficacy refers to the state in which the family caregivers have confidence in care ability for the cerebrovascular diseases patient as measured by the instrument developed by researcher based on Bandura's theory (Bandura, 1977: 191-215).

Self-esteem refers to the state that the family caregivers are proud of themselves with sense of high self-esteem, are recognized as important persons, as measured by Self-Esteem Scale, developed by the researcher, with the modification of Rosenberg's Self-Esteem Scale.

Assumption of the Study

The sample was consisted of cerebrovascular disease patients admitted in Neurosurgical Ward of Siriraj Hospital and their family caregivers during the study period. These were assumed to be the resent actives of all patients treated in the hospital.

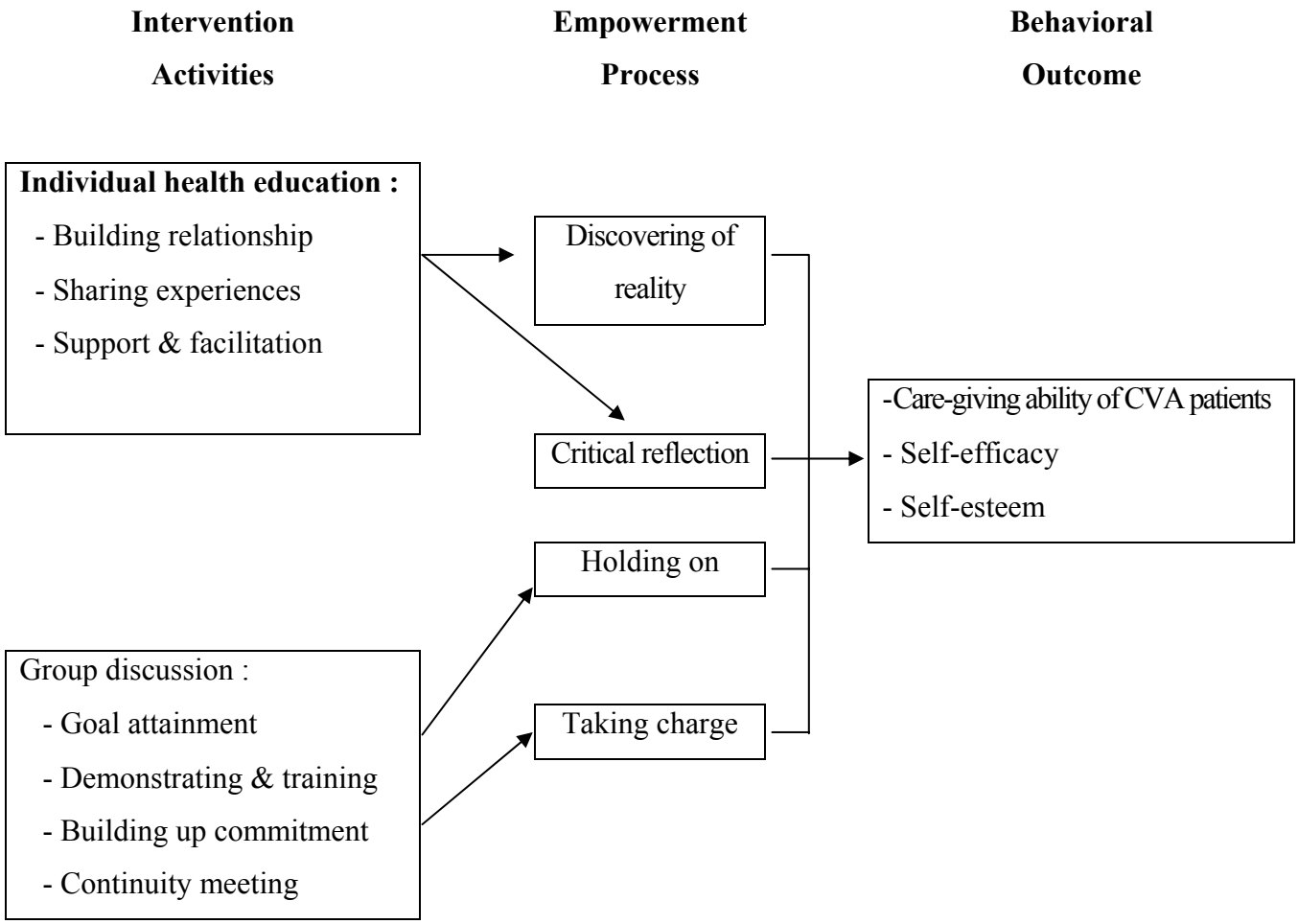

Figure 1 : Conceptual framework of the study

CHAPTER II
LITERATURE REVIEW

Literature review of this study was include the following topics:

1. Cerebrovascular disease
2. Concept of family caregiver
3. Concept of empowerment
4. Self-efficacy
5. Self-esteem
6. Educational strategies
7. Related studies

1. Cerebrovascular disease

Cerebrovascular disease (or stroke, cerebrovascular accident), according to the definition of WHO (WHO, cite by Kannel & Wolf, 1983: 1-23), is a neurological disorder syndrome that related to inadequate cerebral blood supply directly or indirectly. It lasts for more than 24 hours with no prodromal symptoms and causes brain tissue damaged by thrombosis, embolic or hemorrhage vascular disorder. Degree of brain tissue injury and impairment of neurological function depends on size, site and pathological process of attack (Pathumchinda, K. 1987: 1-34).

The following characteristics exclude cerebrovascular disorders from trauma, neoplasm or CNS infection :

1. Occlusive vascular disease from either thrombosis or embolism and lead to cerebral infarction.
2. Spontaneous hemorrhagic vascular disease that cause intracerebral or subarachnoid hemorrhage.

Cerebrovascular disease has high prevalence among other neurological disorders (Viriyavejakul, A. 1985: 120-9; Hunuchareonkul S., 1988: 126). In the United State, it was the third leading cause of death following cardiovascular disease and cancer (Garrison & Rolak, 1993: 801-24). Half of the patients with neurological disorders were found to have cerebrovascular pathology (Puangvarin N., 1991: 223). However, development of diagnostic and therapeutic knowledge and technology reduce its mortality rate significantly, the resulting disability still persists and increases trend in the future.

Risk factors of cerebrovascular disease (Panthumchinda K., 1987: 12-21)

Major risk factors

Age : The incidence of cerebrovascular disease is increasing with age. The rate of : 1,000 was found among people aged 45 to 54 years old and from 6.0 to 12.0: 1,000 when age increase from 65 to 74 years old. It is as high as 40.0: 1,000 when age is over 85 years old. Incidence is not different between the two genders after reproductive age, but lower in female during menstrual age. Estrogen is believed to possess the anti-atherosclerrotic effects. Besides the atherosclerotic change from aging process, hypertension and diabetic mellitus are major risks commonly found in the elderly patients.

Hypertension (HT) : is provided to be the most potent risk of cerebrovascular disease. It Hypertensive patients are 6 times more likely have cerebrovascular disease when compare with normal people. Degenerative vascular change from hypertension also causes cerebral hemorrhage and cerebral infarction.

Heart disease : patients with heart disease without hypertension have a higher risk for cerebrovascular disease. It was found that those with ischemic heart disease are 2-5 times more likely to have cerebrovascular disease than the normal population. For those with atrial fibrillation, the incidence is 6 times higher than those without it.

Diabetes Mellitus (DM) : Clinically, it is evident that DM is a major risk factors for cerebrovascular disease. It is 2 times higher in incidence for the diabetic to develop cerebrovascular disease.

TIA (Transient Ichemic Attack) : one-fourth to one-third of patients with TIA will develop cerebral infarction. The chance for cerebrovascular disease in the first year is 17.3 times and 5 times higher during the second year. It usually decreases with the succeeding years for the patients may die of other causes before having cerebrovascular attacks.

Minor risk factors :

Hyperlipidemia : It has low correlation to cerebrovascular disease unlike to cardiovascular disease.

Smoking : It increases significant risk on the male age under 65 years old.

Excessive Alcoholic Abuse : It may be a major risk for cerebral hemorrhage and infarction by induction of hypertension.

Natural history and prognosis of cerebrovascular disease

Natural history means duration from etiologic agent causes changes in physical and biochemical process of humans and gives rise to clinical symptoms until cure, death or disable. In cerebrovascular disease patients, this starts from the onset of risk factors involvement until cure, death of disabilities. However, clinical course begins from clinical symptoms until cue, death or disable. So clinical course is a part of natural history of disease.

Prognosis means prediction of clinical outcome of a patient based on data from clinical symptoms, natural history and clinical course.

Prognosis and clinical course of cerebrovascular disease depend markedly on clinical findings after the attack. The finding reflects the extent of cerebral injury that can predict the clinical outcomes of the patients, whether they will survive or how much disability will be left with them. However, recurrent attacks depend on underlying risk factors.

Treatment of cerebrovascular disease. (Sirimaharaj, S. 1994: 3-11)

General medical and suppotive care include :

1. Air way potency: by regular secretion suction ever 1-2 hours for prevention of airway obstruction and aspiration pneumonia.
2. Blood pressure control: it is a controversial subject regarding when and how many degree of blood pressure to be treated. In general blood pressure shouldn't be reduced in the first 24 hours in cases of cerebral infarction. After that, should be kept the mean arterial pressure between 110-120 mmHg, some patients may have prolonged hypertension induced by treatment.
3. Retain condom for male and urinary catheter for female in cases of neurogenic bladder.
4. Keep the balance of fluid and electrolyte.
5. Adequate and appropriate nutritional support.

6. Bed rest initially, until neurological signs, vital signs and clinical symptoms become stable for more than 24 hours.
7. Start rehabilitation program as soon as possible.

Prevention of cerebrovascular disease (Puangvarin, N. 1988: 867-9)

Control all risk factors, both major and minor, can prevent cerebral infarction and hemorrhage. Studies showed that hypertension control can reduce incidence and prevalence of cerebrovascular disease in developed countries.

Rehabilitation for cerebrovascular disease patients (Poupan, P. 1987: 337)

Reduction of the handicap and promotion of independence and having similar functional capacity as before stroke are the major aims for stroke rehabilitation. These aims could be in half of the patients who were admitted in good grade.

Rehabilitation staffs have to evaluate, guide the patients and, in the same occasion, co-operate with other health staffs.

Prognostic indicators for rehabilitation outcome (Tosayanon, O. 1986: 537; Pichaiyongwongdee, S. 1981: 56) There are positive and negative predictors :

Positive predictors :

1. Familial and social support. Family members and social members have marked influence on patient's recovery during rehabilitation. Their concern, understandings, co-operation with the treatment program and absence of neglect from the family part are the major predictors.
2. Recovery of bladder control within first 1-2 week.
3. Recovery of trunk, limbs and girdle muscles within first 2-4 weeks.
4. No depression.
5. Good cognitive function.

Negative predictors :

1. Prolong comatose patients.
2. Prolong flaccid muscle weakness for more than 2 month.
3. Spastic proximal muscles.
4. Impairment of bowel and bladder control.
5. Intellectual impairment.
6. Previous attack of cerebrovascular disease.
7. Depression.
8. Associated cardiac disease.

Problems of cerebrovascular disease patients during rehabilitation

Because of abrupt onset of the disease it leads to many physical, psychological and social impacts on the patients. Cerebrovascular disease causes impairment in function of many organ systems.

1. Physical impacts caused by residual handicap and disability include :-

Impairment of locomotor function includes :- hemiparesis, hemiplegia and spasticity which are the most common problems faced by cerebrovascular disease patients. These lead to difficulty in ambulation, painful, stiffness of joint especially knee and shoulder joints and finally troublesome in holding their daily activity.

Impairment of speech and writing includes : defects in sound production caused by weakness of motor speech organs (lips, palate and tongue), called “dysarthria”; defects in words or phrases pronunciation by cortex, called “motor aphasia”; defects in comprehension and expression “global aphasia”; unable to understand writing words, called “alexia”; and can not write out what is kept in mind, called “agraphia”. These patients have the lesion on the left hemisphere, which is the dominant hemisphere for language. 90-50% of right-handed person has left dominant cerebral hemisphere (Ibrahim, F. 1984: 137-72). The lesion that involved left hemisphere and language zone will produce right hemiparesis and language disorders, that is not found in right hemisphere lesion except for right cerebral dominance in a

few left-handed persons. Frustration, depression and isolation are the end result of difficulty in communication.

Impairment of eating caused by weakness of muscle for chewing and swallowing: food can not be chewed and passed into esophagus properly, some patients face with cooking and regurgitation of food through nostrils because weak soft palate can't close nasopharynx completely. These may lead to malnutrition and electrolyte imbalance.

Impairment of sensory perception includes :

1. Impaired perception of touch, pain, temperature and pressure. The patients can not identify the site of both single and multiple simultaneous stimuli. They may neglect the side of body involved and be hurt by dangerous stimuli because of no defensive response initiated.

2. Impaired perception of body balance. The sense of balance from the involved side is lacking and causes instability frustrates or fears of falling, which interferes with rehabilitation.

3. Discrimination of time, place, and person, that makes the patients confused, reluctant and inappropriate behavioral response.

4. Impaired visual perception causes lack of response to visual stimuli and unrecognization of visualized objects or persons. The common abnormalities found are hemianopia, diplopia, obscured vision and dysmetria of visualized surroundings. These usually cause accident and obstruct their daily activity.

Intellectual deficits. The common findings are amnesia, short attention span, easily distractible, reluctance, lost of calculation ability, reasoning and imaginary thinking. They can't correlate what they have learned with real events, so new learning experience is difficult for them. They can not initiate new ideas or behaviors to solve their daily life problems.

Defect in bowel and bladder functions. Some patients face with difficulty in bladder control either difficulty in initiation of urine flow or incomplete emptying the bladder. Constipation is also a problem needed help from caregivers.

Defect in sexual activity. Loss of libido and organism is commonly found which lead to interpersonal relation problems in the spouse. Moreover, stiffness of joints and muscular atrophy will present if inappropriate rehabilitation program was employed.

2. Psychological impacts. The pathogenesis of psychological disorders in cerebrovascular disease patients is thought to be from the brain pathology itself or from the abnormal psychodynamic response. Antidepressants and electroconvulsive therapy (ECT) are used based on former idea. This is not without side effects as we have learned: drowsiness, impaired learning or perceptual process and memory, decubitus ulcers and stiffness of joints from prolonged bed ridden state. Bone fracture is common after ECT. The latter idea is now widely accepted. Studies showed that health team had limited experiences in taking care psychologically impaired stroke patients. The common psychological impairment in stroke patients are :

2.1 Depression is common in both acute and chronic cases of cerebrovascular disease and classified into 4 levels as below:-

2.1.1 Normal or no depression.

2.1.2 Mild depression: the patients will have sad looking appearance and decrease social interaction. Somatic symptoms that combined are insomnia, anorexia, fatigue and weight loss.

2.1.3 Moderate depression. This level of depression will interfere with normal daily activity. The patients look sad, hopeless, lack of self-esteem, irritable moody, aggressive and suicidal thought.

2.1.4 Severe depression. The patients have markedly changed behaviors and can not hold on their usual daily works. Avoidance and suicidal attempt are more common.

Depression was found in 23-75% of stroke patients and was shown to retard recovery of muscle strength during rehabilitation because of lack of co-operation in depressed stroke patients. Finally, this effected their daily activity maintenance and quality of life.

2.2 Fear is a normal psychological response to stress or normal emotional response to avoid the harms or invaders at the moment.

2.3 Anxiety is a response to unhappy stimuli. It causes pressure, stress, frustration, fear and systemic changes in human body.

2.4 Aggressive ness. The use of physical or verbal violence against persons or surroundings to protect self or his own rights. Without inhibition it may be shown in forms of domination such as commanding or looking down or over disciplining on the others.

2.5 Sense of loss. Cerebrovascular disease patients will feel sense of loss because they are dependent on others, their prolonged physical and psychological disability also make them feel sense of loss.

3. Social impacts. Cerebrovascular disease causes physical handicaps and negative impacts on psychological part of the patients. These lead to many psychosocial problems, such as alteration in relationship between the patients and relatives and society and reduction in value and stability of social status.

Treatment of cerebrovascular disease during recovery phase

Aim of treatment of cerebrovascular disease is to prevent recurrence, so this is a long term follow-up treatment plan to control atherosclerotic risk factors, for example, hypertension, diabetes mellitus, hyperlipidemia, smoking etc. In another way, it is aimed to prevent complication such as pneumonia, urinary tract infection, decubitus ulcers, pulmonary embolism, stiffness of shoulder joint, spasticity, depression, seizure disorder and traumatic injury. All of these are preventable and correctable based on close concerns of health staffs. Early diagnosis and promptly administered appropriate treatment will result in good functional recovery and reduction of cost involved in health care.

Physical rehabilitation of cerebrovascular disease

Handicaps and loss in cerebrovascular disease patients can be classified into 4 categories:

1. Cognitive loss. Direct and extensive loss of brain tissue especially frontal or temporal lobe from cerebrovascular disease causes alteration in conciousness. This effects the learning process and intellectual function which leads to poor performance of activities of daily livings (ADL) and dependency.

2. Communication loss. The defects in verbal communication cause depression in the patients and leads to poor co-operation in rehabilitation program because their sense of hopelessness, powerlessness and desire to death.

3. Motor loss. Muscle and hemiplegic limbs are common findings that cause physical handicap and reduction in ambulation. The rehabilitation for the hemiplegic limbs consists of 6 parts as below :

1. Upper limb function
2. Oro-facial function
3. Training for sitting up from supine
4. Training for balanced sitting
5. Training for standing up and sitting down
6. Training for balanced standing and walking

4. Sensory loss. This may effect the functional recovery and in appropriate rehabilitation may delay or even cease the recovery.

2. Concept of family caregiver

Family caregiver

Family caregiver means the person who takes care of or provides care for the patients (Sirapo-ngam, Y. 1996: 86). The person who provides the patient with such care may be a blood relative or a relative by marriage, a partner or friend, a neighbor or some other person. The patient in caring must be person who had a disease, deformities, or decline of physical functioning which affects to limitations of daily activity living or needs a special treatment. The situation of caring must be at home or in community. Specifically, it focuses on the caregiving without salaries or rewards (Sirapo-ngam, Y. 1996: 86; Barer & Johnson, 1990: 26-8). The caregiver must be employed or procured for caring the patient (Stewart et al., 1995: 1101-11; Swanson et al., 1997: 65; Sirapo-ngam, Y. 1996: 86). Occasionally, it was found that the patient has family caregivers. In fact, only one member of the family caregiver is a primary caregiver or person who is directly and continuity caring for the patient more than the other. Many caregiving research reports identified that the majority of primary caregivers were spouses, adult children and other relatives provided care to patients. The minority of primary caregivers included friends and neighbors (Given & Given, 1991: 78-9; Horowitz, 1985: 200-1). According to the several studies of caregivers conducted in Thailand, it was found that 75-85% of family caregivers were family members (Chaoum, V. 1993: 37; Cheewapoonphon, C.1998: 82; Maneewan, C. et al.1994: 241). The most common caregivers were women who were relatives with the patients, as wife, daughter, and daughter in law, only 15% of the caregivers were nurses or health professionals. Two type of family of family caregivers can be identified according to their roles : primary caregiver and secondary caregiver. In summary, family caregiver's role falls primarily into two categories (Horowitz, 1985: 201; Swanson et al., 1997: 71) :

1. Care provider or direct care: care provider who performs complete assistance for the patient both physical care and respond to needs of the patient such as emotional support, doing housework, and assistance for daily living activities.

2. Care manager or indirect care: care manager tends to have competing careers, arranges for services that others will provide.

In addition, family caregivers can further be defined according to the level of responsibility in caregiving. For instance, a primary caregiver refers to a person who primarily takes care of the patient and the amount of care exceeds those of others. Moreover, a secondary caregiver may sometimes looks after the patients when the primary caregiver is engaged with some other duties, or sometimes he/she is only helper of the primary caregiver (Selected Committee on Aging, 1988). Many caregiving research reports identified that the majority of primary caregivers were spouses, adult children and other relatives, respectively. The minority of primary caregivers included friends and neighbors (Given & Given, 1991: 78-9; Horowitz, 1985: 200-1).

The characteristics of the family caregiver

A caregiver is a person who has been involved in caregiving at home (Davis, 1992: 2; Horowitz, 1985: 199). It is an informal caregiving or career. The characteristics of caregivers are as follows (Sirapo-ngam, Y. 1996: 86; Suwanno, J. 1998:147-151; Barer & Johnson, 1990: 26-8) :

1. Persons or relatives of cerebrovascular patients can be fathers, mothers, husbands, wives, sons or daughters, sisters or brothers, and friends or significant others of the patients.

2. Patients are the persons whose health status has been changed according to the disease, disability, and deterioration of physical, emotional, and mind resulting in limitations in activity of daily life or who need specific treatment.

3. Specifically focuses on the caregiving without salaries or rewards. The context of caregiving occurs at home, not in hospitals or health centers.

There are many factors that determine the suitability of a caregiver. Age indicates maturity and experience of the individual. Older caregivers tend to be able to adapt better (Cheewapoophon, 1998: 99) and have less role stress (Kaewraya, K.1997: 83) than younger caregivers. Conversely, the older need more assistance for providing care than the younger because of the natural degeneration of age. Gender is one of the most significant factors determining the selection of the caregiver. Women offer significantly higher levels of overall assistance such as domestic and personal care task, while men offer better decision making and financial management (Horowitz, 1985: 216). Numerous caregiving research reports in Thailand found that 75-80% of caregivers were females (Chaoum, V.1993: 37; Cheewapoophon, C. 1998: 53; Kaewraya, K.1997: 82; Maneewan, et al., 1994: 241; Saewan, J.1993 : 33). Marital status also appears to be an important factor determining the selection of caregivers. Individuals who are single or divorced often take on the role of caregiver (Horowitz, 1985: 220-1). Individuals who are unemployed or work at home are more likely to take on the role of caregiver than individuals who work outside. In addition, positive attitudes for providing care and the physical and mental health of the caregiver influence individuals in taking on caregivers' roles (Siripongam, 1997: 3-4).

The role and responsibilities of family caregivers of cerebrovascular disease patients

Four types of activities or services that informal caregivers should provide have has been proposed (Ibrahim, F. 1996: 69), as follows :

1. Direct care service includes :

1.1 Personal care includes several kinds of activities as follows:

1.1.1 Feeding : Some cerebrovascular disease patients can still help themselves but they did it slowly due to the residual neurological deficits. Some were not able to eat at all. A caregiver has to be the main person to provide some food that is carefully prepared, for example, no bones and small pieces. Some patients needed NG feeding which required a competent caregiver.

1.1.2 Hygiene : Personal hygiene includes bathing, brushing teeth, shaving, washing hair, clipping nails which were performed by the caregivers.

1.1.3 Dressing : Dress for cerebrovascular disease patients must to be comfortable, easy to use, for example, button in front instead of back. Some complications such as pressure sore may be caused by the fabric of dressing too.

1.1.4 Toileting : A caregiver has to arrange the best way for each patient. Some may need a bedpan and some still can walk but need selected help to go to the toilet.

1.1.5 Movement : It has been told that stimulation to move the parts of the body can be used to increase the ability of muscles that are needed support from caregivers. They may need a balancing device or some kinds of instrument to help them to move about.

1.1.6 Resting : Most cerebrovascular disease patients get some sleep during the day that causes less need for sleep at night. Caregiver may provide the environment to help them fall asleep at night instead of in the morning.

1.2 Complications and accident are mostly found among cerebrovascular disease patients as follows:

1.2.1 Skin disease : Care of the skin helps with blood circulation which is needed in cerebrovascular disease patients. The most common parts of skin problems are in armpits, between thighs and fingers. It should be kept dry and clean at all times.

1.2.2 Pneumonia : Aspiration pneumonia is one of the most common causes of morbidity, care should be taken during and after feeding.

1.2.3 Stiff shoulder and joint : It has been shown that exercise helps to decrease stiff shoulder and joint movement. Caregivers encouraged patients to use their good limbs to exercise one another. Hot compress can be used to reduced pain.

1.2.4 Osteoporosis : Osteoporosis is the most common occurrence in long-term limited movement. Exercise is related to lower rate of Osteoporosis.

1.2.5 Infection in Urinary tract : Infection in Urinary tract was caused by abnormal voiding. Urinary catheter may be needed.

1.2.6 Swelling of the extremities : Swelling of the extremities one of the most common in cerebrovascular disease patients.

1.2.7 Muscle deformity : Due to movement dysfunction resulting from the existing of non-voluntary muscle control which had been destroyed. It has been shown that exercise helps to decrease muscle deformities. The ignorance of having exercise can cause serious deformities.

1.2.8 Recurrent : Taking care of cerebrovascular disease patients with mindfulness of care intention can prevent risk of recurrent of disease. Prevention of complication can help the patients not only from sickness but also from recurrence of disease.

Situations family caregivers of cerebrovascular disease patients have to face include providing in which care in physical, psychological, and economic functions as well as taking charge of the expenditures incurred by medical treatment and care. Moreover, family caregivers in some cases have to learn how to communicate with patients who have speech or communication problems trying to use different means and methods available.

The physical and mental health substitution role

The cerebrovascular disease patients tend to suffer from physical disability and the neurological deficits leading to in-ability to perform their normal activity of daily living (ADLs), requiring prolonged rehabilitation. This can pose a burden on the family caregivers who have to help them with their ADLs and with their rehabilitation to restore their physical function. In addition, the family caregivers have to devote their time and effort to protect the patients from potential accidents or complications such as fever, stiffness of joints, and bed sore. Sometimes it would require as 24 hours a day for the family caregivers to be

aware of all the necessary precautions. However, some patients may be able to return to previous lifestyle or work despite the presence of some disabilities such as the impairment of the motor neuron, slow thinking, or communication problems (Ngaochin, T. 1999 : 68). Furthermore, some patients may also experience some mental or behavioral abnormality such as anxiety or mood swings. Some family caregivers may be exhausted because of spending a lot of times in caregiving. When there is an ill person in the family, and the burden of care falls on one family member, the family caregiver may put all the physical and mental effort into caregiving; thus, he or she ends up having a worsened health status. For example, some family caregivers may suffer from back pain resulting from incorrect posture when having to help the patient move, while others may experience anxiety and insomnia (Cheewapoolphol, C. 1998; Chuangsawatsuk, S. 1998; Ibrahim, F. 1996). Therefore, those family caregivers report poorer self-rated health status, higher level of strain, either loss or gain of body weight, dyspnea, insomnia, unhealthy eating pattern, and joint pain. These symptoms are the result of prolonged and continuous responsibility of caring for a chronic patient (Vatcharapichat, N. 2000). It can be seen that these burdens change the lifestyle of the family caregivers and affect their health.

The financial responsibility in caring and medical expenses

The family caregiver and family members have to modify their roles, tasks, and responsibility in order to provide a good care for the patients. For example, some may have to change a job to earn sufficient income for the health care. Most family caregivers often become socially isolated as they have to devote most or all of their time to the patients, so they become less available for reciprocal exchange with others and have to withdraw from friends (Tosuksri, W. 1996: 30). Moreover, financial problems are very common because family caregivers sometimes are unable to fulfill their work and family roles sufficiently, or they may have to pass up financial opportunity due to the caregiving role at home. The severity of financial problems depends on the caregiving roles at home. The severity of financial problems depend on the severity of the disability of the

patient as different degrees of severity require different duration of treatment. However, regardless of the duration of the treatment, financial assistance should be provided for the patients and family caregivers so as to allow them to continue the rehabilitation and achieve the effective therapeutic goal (Vatcharapichat, N. 2000). Also, there should be a continuing care plan to help the patients return to society as soon as possible to save both the family's money and time.

The communication substitute role

After undergoing neurosurgical operation, the patients may or may not have consciousness, but they usually experience restless and disorientation to place, time, and person. They may also have memory and concentration impairment, decreases interest in the surrounding, verbal and non-verbal communication problems, or they may be more impatient. In addition, the cerebrovascular disease may cause the patients to experience aphasia or slurred speech due to the uncoordinated functions of the muscles of the mouth, tongue, jaw, lips, soft palate, and throat. The slow perception in speech and writing may produce communication problems with others including speech, listening, writing, and reading impairment (Ngaochin, T.1999). Health-care teams should increase the communication skills of both the patients and the family to help them reach mutual understanding. Such understanding is necessary to maintain a good relationship between the patients and the family caregivers. The care of cerebrovascular disease patients should be continued from the hospital to home, and whether the family caregivers would decide to take on this responsibility or not depends partly on several important factors between patients and family caregivers including the characteristics of the relationships between them before the onset of the illness, as well as the family caregivers'perception of self-efficacy.

In general, whether the family caregivers may be willing to accept the caregiving responsibility based on the affection and understanding they have for the patients. Therefore, a good relationship is a significant motivation in making decision to accept the caregiving role of cerebrovascular disease patients. In addition, a person who others believe as being ready to take on the role is the one with capacity, cognition, judgment, and ability and skill in caring. However, different situations in different caring such as the transition of care from the hospital to home may result in the change in the potential family caregivers'motivation. Therefore, the family caregivers of the patients at home may not be the same as the family caregivers who provide care in the hospital. This change may cause communication problem when the patients are transferred from the hospital to home. This is because the patients lack the opportunity to choose the family caregivers who would best understand them and most able to communicate with them after the hospitalization.

The previous studies showed an unclear definition of family caregivers resulting in various samples in the studies, which depended upon individual's objectives, variables, and concept of the study. However, the findings showed the argument or controversy that caring by family caregivers dose not occur only at home, but in the hospital too. In addition, they will learn about new skills and caring activities for responding to the increasing need of the patient. Furthermore, family caregivers would expect to provide continuity care at home as their expanded role. This expectation forced them to learn new caring skills, and finally to seek other resources, as cerebrovascular disease patients were admitted to a hospital, in order to prepare themselves to take care of their patients at home.

This shows the need for continuity of care from hospital to home, after the patients discharged from a hospital or a health service center. So the major characteristics of a family caregiver should be a person who is responsible to care for a chronically ill patient who has self-care limitations without receiving financial reward and without any involvement with professional commitments.

Impact of caregiving

Caregivers who take a major responsibility role in caring for dependent persons or chronically ill patients inevitably have some impact on their life, especially in long term care. There are both positive and negative aspects of caregiving. Most of the caregiving research has been focused on the latter. In the negative consequences of caregiving, it has been found that most caregivers spend time and energy with direct physical care, personal care, and management of behavior problems. Providing this care results in disruption of domestic routines decreased personal time and privacy, and rearrangement of work schedules (Given & Given, 1991: 84). Furthermore, some studies suggest that long-term caregiving for disabled relatives is associated with a decrease in physical, mental and emotional health (Pruchno, et al., 1990: 192-9; Schulz, et al., 1990: 181-91), life satisfaction well-being of the caregiver (Motenko, 1989: 166-72; Oberst, et al., 1989: 209-15); increased level of emotional stress or strain (Almberg, et al., 1997: 683-91; Bull, 1990: 758-69; Gasemgitvatana, S. 1994) burden (Loukissa, 1995: 268-70; Montgomery, et al., 1985: 19-26; Robinson, 1990: 189-203), depression (Robinson & Kaye, 1994: 375-89; Song, et al., 1997: 269-86; Wright, 1994: 268-70), and anxiety (Neundorfer, 1991: 260-5).

However, a few studies have identified the benefits of caregiving or positive feelings about caregiving. Positive feelings involve a caregiver's feeling of self-satisfaction, gratification, self-worth, sense of usefulness, increased self-esteem and reciprocity. Additionally, caregiving may result in an improved relationship with, and understanding of the disabled relative. Other beneficial effects include: putting other stressors into proper perspective, enhancing sense of well-being of caregiver (Davis, 1992: 3-4; Given & Given, 1991: 85-6; Siripongam: 1997: 5; Walker, et al., 1995: 404-8).

Worry from caring

Caregivers of cerebrovascular disease patients were usually worried about caring situations in many ways. For instance, they may be worried that they are unable to look after the patients all day and all night long, that the patients'condition may worsen, or that the patients may suffer unexpected side-effects when they are away (Anderson, et al., 1995: 847). Moreover, they may be concerned that they are not efficient enough to help the patients (Cantor, 1983: 600), or they may be worried about what has not yet happened such as managing the patients' behavior which results from physical disability and emotions (Schofield, et al., 1998: 72; Grant & Davis, 1996: 36-56). Some caregivers may not be confident in solving problems and making decision about caring for the patients, or in dealing with difficulty when the patients' condition worsens (Silliman, et al., 1986: 643-8). Beside, some caregivers may be concerned with the patients' health status and physical condition such as permanent disability, safety (Robinson-Smith & Mahoney, 1995: 87), and permanent changes (Greveson, et al., 1991: 337-44). They may fear for other family members' lives and work, which may be affected by the patients' illness as well (William, 1994: 158).

In addition, some caregivers may be worried about both their and the patients' life in the future (Fraser, 1999: 14; Robinson-Smith & Mahoney, 1995: 86; Subcharearn, K., 1999: 65), while other may be afraid of how long they will be able to provide care and who will replace them if something bad happened to them (Almberg, et al., 1997: 688; Doornbos, 1997: 24). Economic status and expenses necessitated by the patients' conditions may be a source of worry as well (Grant, 1996: 897) because the cerebrovascular disease requires a rather high cost of treatment and regular hospitalization, which has been continuously increased. These can also be cause of worry, which may adversely affect the health status of the family caregivers (Kasemkitwattana, S. & Tulyathorn, P. 1995: 83).

3. Concept of empowerment

Empowerment has gained popularity. It is wildly used for developing potentiality of individuals, group of people, and communities. It has been used by diverse professionals, such as social workers, educators, commentators on organizational behavior, and politicians. In the health field, the concept of empowerment has been an approach to client-based activities, such as psychiatric and mental health. It involves giving more power to clients about decisions. Skelton, (1993: 416) described the concept of empowerment as " normalization " in the field of learning which emphasized empowerment as facilitating access to some degree of personal responsibility and to client's choices. The ideas of citizen's rights for quality of health care service, has caused health professionals to adopt an empowerment model to empower people for self-care, self-help, environmental improvement, and health promotion. The adoption of empowerment, requires nurses to have a radical paradigm shift and to develop new skills and specialization in enabling and empowering caregivers.

Empowerment has been referred to encouraging patient's power. The concept of empowerment is arisen from compression and loosing human curiosity and power. There are many definitions depending on the means or target persons it is employed.

Rappaport defined it as the progress that individual, group or society can control his own life (Rapaport, 1984: 1-7). Wallerstien & Bernstien and Minkler (1988: 379-94) define it as: the process that makes someone empowered to control their life that an environment which in turn causes the changes to their own daily life, their interaction with others and social structure that influent on them. Alternatively, the social actions that cause individual, organization or society able to control or choose their way in the future.

The concept of empowerment, was initiated and published in English by Paulo Freire, a Brazillian educator, was initially acknowledged in the education discipline in 1950 . Freire tauhgt empowerment through literacy education in his native Brazil (Gibson, 1990: 354). Freire genuinely believed that education is the foundation of knowledge in which individuals must develop in order to gain self-acknowledgement, self-confidence, self-efficacy, problem solving, decision making, and collaborative ability. Therefore, the concept of empowerment is applied to educational delivery system to encourage students to participate in critical thinking and brainstorming.

The concept is widely used and has been developed in numerous developing and developed countries. Gibson (1991: 354) stated that " empowerment is complex multi-dimensional concept." However, the concept of empowerment lacks a clear definition in which each person defines it within one's own experiences (Norris, 1982 cited by Gibson, 1991: 354). Empowerment is rooted in the " social action " ideology in the 1960s, developed into self-help perspectives in 1970s, linked with community disease prevention and intervention in 1990s (Gibson, 1991: 354-5).

Empowerment has emerged out of the realization that clients have rights. They cannot be forced to follow a life style dictated by health-care professionals. Health care professionals have a role in helping clients to make appropriate choices to take responsibility for their self-care. The major assumptions contained in the empowerment philosophy (Faste, 1992: 922) include the following :

1. Human beings have physical, intellectual, emotional, social and spiritual components their lives interact of in a dynamic fashion.

2. To be healthy, human being must be able to actualize the physical, intellectual, emotional, social, and spiritual components of their lives.

3. Human beings have the inherent right and responsibility to make the major decisions regarding the conduct of their own lives.

Katz (1984: 201-26) and Bernstein (1994: 281-93) viewed empowerment as a synergistic paradigm in which people are interrelated and encouraged. The concept emphasized on : is coping skill, mutual support, consensus, sharing and participatory decision-making, and genuine respect for partners, so trust should be fostered across groups. It is similar that Connelly, et al. (1993: 297-304) described four levels of individual's empowerment: participating, choosing, supporting and negotiating. Participating involves increased active involvement in the process of care. Choosing involves making personal choices and experiencing the consequence of the choices. It is the personal freedom to make choices. Supporting involves the process of moving beyond the individual's internal world to sharing the experience with others by giving and receiving mutual support. Negotiating is the fourth stage of empowerment by working collaboratively with others, such as a health care team, a colleague who has the same interesting issue or problems, partnerships or stakeholders as well as family members. Gibson defined empowerment as the process that helps to restore recognition, promoting and enhancing people's ability in response to their need, in solving problems themselves and in mobilization of necessary resource for daily life. These result in self-confidence, self-powerfulness and self-regulation of own daily life (Gibson, 1995: 1201).

Power is basically divided into two sources: intrinsic and extrinsic power (Smith, 1991: 1260-2). Intrinsic power is developed from recognition of body image, knowledge, self-control and identity. Extrinsic power is critically important for the ones who feel powerless. It is crucial for the health team to recognize and provide it for them by group process or others like charging battery storage.

Empowerment can be considered in both the process and the result. It varies vary in the pattern, target persons and situations. So it is difficult to define it strictly (Rappaport, 1984: 1-7; Israel et al.,1994: 149-70). Resolution of the problems, not the problems, is the major aim of the process by strengthening human power. It is a dynamic process for exchanging the power between individual and individual or organization or society for strengthening the power of control of daily livings by self or in cooperation with the others. (Rappaport, 1984: 1-7).

Empowerment is a process of helping people to assert control over the factors, with affect their lives. This process encompasses both the individual responsibilities in health care and the broader institutional , organizational or societal responsibilities in enabling people to assume responsibility for their own health.

Definition of empowerment

According to Collins Dictionary, empowerment is defined as " giving power or authority, giving ability, enabling or permitting ". The word empowerment stems from the Latin word " potere " meaning to be able (Gibson, 1991: 355). Empowerment within a nursing context is defined as: a social process of recognizing, promoting and enhancing people's abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to feel in control of their own lives. A simple definition is the process of helping people to assert control over the factors which affect their health (Gibson, 1991: 359). In the most general sense, empowerment refers to the ability of people to gain understanding and control over personal, social, economic and political forces in order to take action to improve their life situation. (Zimmerman & Rappaport, 1998: 725-50)

The central meaning of empowerment is in the word, to gain "power" which is refer to the ability to act and create change in a desired direction. Power constitutes a social relationship in which actors can use the resource of personal, social or political power to create change (Gutierrez, 1992: 282). Empowerment within the field of health, social work, education, or community psychology does connote a value based on the conceptualization of " power as hardy " rather than power over others and which assumes that empowerment will allow disenfranchised groups to gain the means to change oppressive conditions (Bernstein, et al., 1994: 283).Bernstein, also stated that " Empowerment is a mean for gaining power on personal, interpersonal and political levels (community). Personal power involves experiencing oneself as an effective and capable person. It involves the ability to make choices for one's life and act upon them.

Interpersonal power is the ability to influence the allocation of resource in an organization or community through formal or informal means." Zimmerman, (1993 cited by Bernstein, 1994: 283) suggested that it was direct attention towards health, adaptation, competence, and a natural helping system. An empowerment approach is characterized by identifying strength, enhancing wellness and searching for environmental influence.

The opposite of empowerment is powerlessness, which is defined as " the state in which an individual perceives a lack of personal control over certain events or situations." (Capenito, 1983: 332-3). The contributing factors are:

1. Pathophysiological factors, any disease process, acute or chronic can cause powerlessness which becomes the inability to perform role and responsibilities.

2. Situational factors, lack of knowledge, or personal characteristics that highly value control, situational institutions limitations, no privacy, social isolation, lack of explanations and information from caregivers.

3. Maturational factors, dependence on peer groups, independence from family, young adults, marriage, pregnancy, parenthood, adults, career pressure, elderly; sensory deficits, losses of significant others.

Powerlessness in individuals who have health problems is related to discouragement which affects physical psychological aspects and three factors that influence individual's powerlessness are as follows (Anderson, 1986: 19-24).

1. Individuals are allowing others to depower themselves due to a misunderstanding that they were unable or incompetent and did not feel accomplishment, and felt inferior to others. For example, those who lose self-control will be unable to refuse the temptation of alcohol drinking despite the contra-indication to alcohol drinking due to chronic disease.

2. Individuals, depower themselves, because they believe they are incapable due to inability to develop themselves. They lack clear goals. They follow other's suggestions and imitate others instead of making their own decision.

3. Individuals are deliberately depowered by the system of the other people because that system does not reinforce personal development. The system do not support critical thinking in people, such as the previous and present educational curriculum model which depower people.

The concept of empowerment

Empowerment is a transactional concept because the process involves a relationship with others. Although empowerment involves an individual demand, it is nurtured by the effects of collaborative efforts (Kieffer, 1984: 9-36). Additionally, empowerment increases one's self-esteem and self-efficacy or the promotion of positive health behavior in individual (Wallerstein & Bernstein, 1988: 379-94).

Katz (1984: 201-26) and Bernstein (1994: 281-93) viewed empowerment as a synergistic paradigm in which people are interrelated and encouraged. The concept is coping skill, mutual support, consensus, sharing and participatory decision-making, and genuine respect for partners, so trust should be fostered across groups.

Connelly, et al. (1993: 297-304) described four levels of client empowerment: participating, choosing, supporting and negotiating. Participating involves increased active involvement in the process of care. Choosing involves making personal choices and experiencing the consequence of the choices. It is the personal freedom to make choices. Supporting involves the process of moving beyond the individual's internal world to sharing the experience with others by giving and receiving mutual support. Negotiating is the fourth stage of empowerment by working collaboratively with others, such as a health care team, a colleague who has the same interesting issues or problems, partnerships or stakeholders as well as family members.

Israel (1994: 152-3) divided empowerment into three levels: individual or psychological, organizational and community. An individual or psychological empowerment is the individual's ability to make decisions and to have control over personal life by developing a positive self-concept of personal competence, a sense of mastery and control, including a process of participation to influence institutions and decisions. Organizational empowerment involves democratic management in which members share information and power, and utilize a cooperative decision-making process. Organization members participate in the design, implementation, and control of efforts toward mutually defined goals. Community empowerment is the combination of empowerment of individuals and organizations to apply skills and resources in collective efforts to meet community needs. This multilevel concept of community empowerment implies that change that occurs at one level will affect changes at other levels.

Kieffer (1984: 9-36) conceptualizes empowerment in a developmental sense as a process of belonging; a long-term process of ordered and progressive development of participatory skills and political understanding. There are four stages of empowerment. The first stage is the era of entry which parallels the developmental stage of infancy. In the first stage, the participation of the individual is imploratory, unknown and unsure while authority and power structures are demystified. The second stage is the era of advancement, which is characterized by a mentoring relationship as well as a supportive peer relationship. In the second stage, there are opportunities for collaboration and mutually supportive problem solving. A critical understanding of the situation is gained with the assistance of an external enabler. The individual develops mechanisms for action and accepts responsibility for choices. Rudimentary political skills are additionally developed. This stage parallels late childhood. The third stage is an era of incorporation, a phase where activities are focused on confronting and contending with the permanent and structural or institutional barriers to self-determination and organization. Leadership and survival skills are developed. This era is likened to adolescence. The fourth stage, the era of commitment, paralleling

the stage of adulthood, is a period in which the individual integrates new personal knowledge and skills into the reality and structure of the everyday life world.

Gibson (1991: 356-7) presented a conceptual analysis of empowerment to examine the attributes, characteristics and uses of the concepts of empowerment. Empowerment is a complex and multidimensional concept within a nursing constant. Empowerment can be conceptualized as composite attributes that relate to the nurse, and attributes that belong to both the client and nurses. In a broad sense, empowerment is a process of helping people to assert control over the factors which affect their lives. The process encompasses both the individual responsibilities in health care and the broader institutional, organizational or societal responsibilities in enabling people to assume responsibility for their own health. Without empowerment one will develop powerlessness, hopelessness, alienation, victimization, subordination, apparition, paternalism, loss of sense of control over one's life and dependency. Nurses are able to engender the notion of empowerment with the assumptions that:

1. Health belongs to the individual. The individual has the prime responsibility for his own health. Health care professional need to respect and address the social influences on health.

2. The individual's capacity for growth and self-determination needs to be respected. Individuals have competencies, both internal and external, to direct their own destinies, to make changes and to make decisions.

3. People empower themselves with the help of nurses to develop, to secure and to use resources to promote and foster a sense of control and self-efficacy.

4. Nurses need to value client participation, to accept that client may reject the help or make decisions that are different from what is decided for them.

5. Empowerment is a collaborative process, which need active participation in the relationship. Cooperation between nurses and clients is ensential and is mutually beneficial. Nurses expose imbalances that prohibit patients from achieving full potential. The mutual respect between nurses and clients will enhance the empowerment process to happen.

6. Trust is a very necessary condition in the empowerment process. A trusting relationship between nurses and patients will bring great help for empowerment.

7. The role of the nurse is a sensitizer to self-awareness and self-growth as well as a resource and facilitator. If nurses are to subscribe to an empowerment model, nurses need to legitimize the believe that people are equal partners in the health care team. Gibson's empowerment model for nursing presented in Table 1.

Table 1 : An empowerment model for nursing Source: Gibson (1991: 359)

Client domain	**Client-Nurse interaction**	**Nursing domain**
Self-determination	Trust	Helper
Self-efficacy	Empathy	Supporter
Sense of control	Participatory decision-making	Counselor
Motivation	Mutual goal setting	Educator
Self-development	Cooperation	Resource consultant
Learning	Collaboration	Resource mobilizer
Growth	Negotiation	Facilitator
Sense of mastery	Overcoming organizational	Enabler
Sense of conceitedness	Barriers	Advocator
Improved quality of life	Organizing	
Better health	Lobbying	
Sense of social justice	Legitimacy	

The factors that influence empowerment

Hawks (1992: 609-18) concluded that empowerment embraced the following factors :

1. To provide a warm, nurturing and caring environment. The people have self-confidence, trust, open-mindedness, sincerity, honesty, clearly directed communication skills between the people with efficiency, the human acceptance and the value added to them.

2. To build a vision of mutual goals without emphasizing control. There will be mutual goal setting and mutual decision-making.

3. There is mutual agreement on the ongoing activity process by using appropriate alternatives, and self-decision making.

4. Factors which will be performed are preconditions of empowerment. It has been illustrated that empowerment is a dynamic process, having mutual relationships, therefore, there are preconditions of empowerment as follows.

a) A commitment of the participants who are empowered to have sincere bonding and love for each other.

b) A commitment of the participants who are empowered, in order to meet the ultimate outcome of strengthening the sustainability of the modified lifestyle. They should be able to avoid health risk-problems, develop self-care, solve problems and should be able to cope with the health problem they are facing

5. The participants should have awareness of the intrapersonal and interpersonal factors such as health beliefs, value, determination, experience and social support.

Process of empowerment

Empowerment is a dynamic and learning spiral process, beginning from analysis of what is practicing and its related causes to development of action plan and practicing solutions of the problems. Gibson (1995: 1201-10) illustrated the elements of empowerment from her study on the process of empowerment in the conceptual analysis of Kieffer and Gibson (1991: 354-61).

Empowerment is classified into 4 steps (Gibson, 1995: 1203-8).

1. Discovering reality. This is an initial period when problems or disease diagnosis are realized by family caregivers. In this phase, the responses are as follows :

1.1 Emotional response. Such as frustration, confusion, fear and anger. Severity of response depends on how much the problems influent their life.

1.2 Cognitive response such as doubt in the diagnosis and try to improve their own on their clients' health status. In the stage, family caregivers need help and information about their problems from others such as doctors, nurses or other people or books. They embarked upon a quest for information. There was a strong sense of trust in people, so the care provider should let them share in their feeling, experiences, and information among the group members having the same health problems, and building up trust, and communication, with freedom and in a comfortable environmental situation.

In this first stage of empowerment; the clients may inevitably face with many conflicts about their own problems, their relationship within family, the rules or ways of practice in the community and interaction between health staffs and them. These conflicts can be obstacles or reinforcement to push empowerment through the aim depending on the management of everyone related.

2. Critical reflection. This will take place in a warm, reliable and empathized environment set by expertise health staffs. By using conflicts as process catalyst they can promote self-esteem, self-efficacy and realization of the clients about their problems, need, aim of life attitude and accessible resources. Important technique here in this stage is to put a question with clear cut objective on appropriate condition, and let the family caregivers to find out the answer by themselves. By this approach, the family caregivers will heighten their self-esteem and satisfaction, and find their solution by reasoning thinking rather than be involved in emotional jam which reduce their efficacy.

3. Taking charge. In this stage, family caregivers take action in solving or performing useful activities, which is learned from group participation. It is congruent with the stage of organizational, development which taking charge entails:

3.1 Advocating is the willingness to help or support individuals in the group who have some problems. They intend to help and support the others who need help. They have the feeling of caring, understanding and have good personal relationships.

3.2 "Learning the ropes" is learning to deal efficiently within the health care system and making decisions for health responsibilities and requesting assistance.

3.3 Learning to persist in individual competency and to keep seeking information and to develop good interpersonal relationships with group members. The individuals learn to seek information from health care providers and sustain their knowledge and keep their own benefit. They learn how to create a good relationship with the health care provider. They are able to ask questions, and share their own feelings and communicate with the health care provider.

3.4 Driving negotiations with others and health professionals. The persons are being encouraged to make decisions by selecting alternative methods of self-care. Similar health problems are seen in the group membership.

3.5 Establish the feeling of participation in order to meet the desired outcome. The group participants open overt-communication. They listen to each other's opinions, in order to learn the real situation. They are participating in teamwork. They recognize the other peoples real feelings, and properly practice necessary skills. They learn to behave appropriately.

4. Holding on. This last stage will happen when the family caregivers pass through the first three steps with full knowledge, strength and sense of self-efficacy to face and manage the problems successfully. The third steps of empowerment will be repeated continuously which will increase the confidence to control self and environment and to take care the patients effectively. They practice for their own skills and strengths. They realize their own abilities to deal with the problems or respond to their own needs and self-confidence. They are able to select the appropriate methods for their own practice and know how to develop the right method which is congruent with commitment, which is continuous and is sustainable.

Factors influencing success in empowerment

1. Precondition. Because it is a dynamic and interactive process. The success depends on 2 preconditions.

1.1 Commitment of the empowerment .The family caregiver must possess the ability to take care of their health, the patients are able to solve problems by themselves.

1.2 Bonding and love between the family caregiver and clients. Mutual reliance and cooperation is crucial. The staffs should start and keep on the process with emphasis on their relation with the clients.

2. Factors that have to be consistent in all steps. Continuous good relation, love and bonding with the clients throughout all steps of empowerment are needed.

3. Intrapersonal and interpersonal factors such as beliefe, attitudes, experiences and social support.

See Figure 1 for a conceptual model of the process of empowerment developed by Gibson (1995 : 1203).

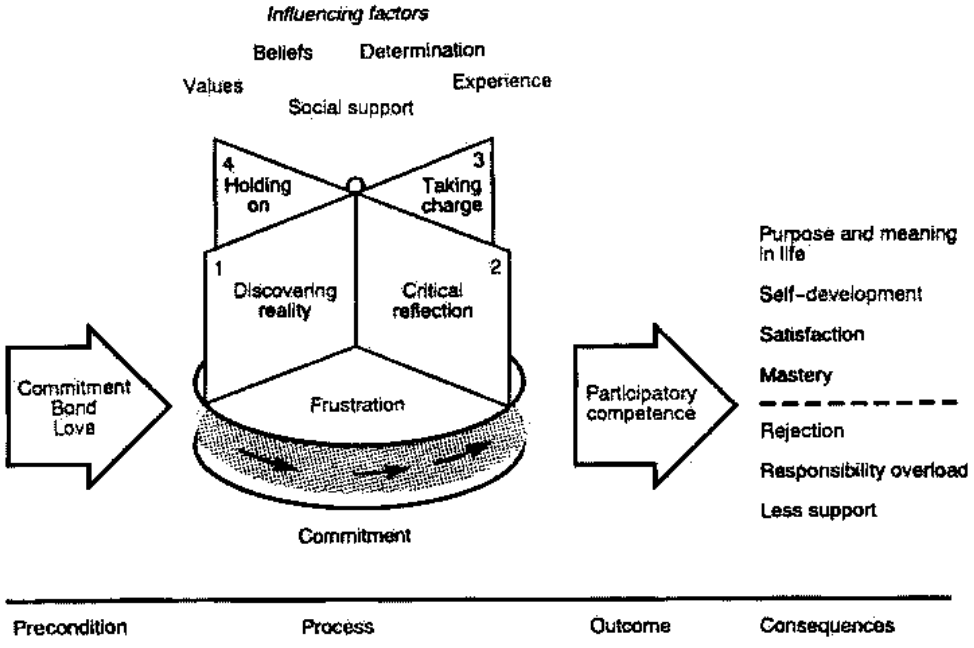

Figure 2 : A conceptual model of the process of empowerment (Gibson, 1995: 1203)

4. Self-efficacy theory

Albert Bandura, an American psychologist, is the first who studied human behaviors according to Skinner's theory. He proposed that beliefs in self-efficacy can put an influence on modification of health behaviors, and this theory was regarded as "Bandura's Self-Efficacy Theory" (Bandura, 1977: 191-215). It emphasized on effects of self-efficacy in initiating activities by self.

Self-efficacy theory is based on Social Learning/Cognitive Theory that when one has adequate skills and drives to modify his own behaviors according to the suggestion for health, he has to develop efficacy expectation combined.

Bandura has showed that self-efficacy which can push someone to do specific tasks is a interrelation between knowing what to do and doing it actually.

From the above theory, Bandura has tested and developed Self-efficacy Theory by hypothesizing that when one is relied on his self-efficacy, and known what to do and the outcomes are what is expected, he will initiated actions and follow the recommendations. The structure of the theory is shown in Figure 2.

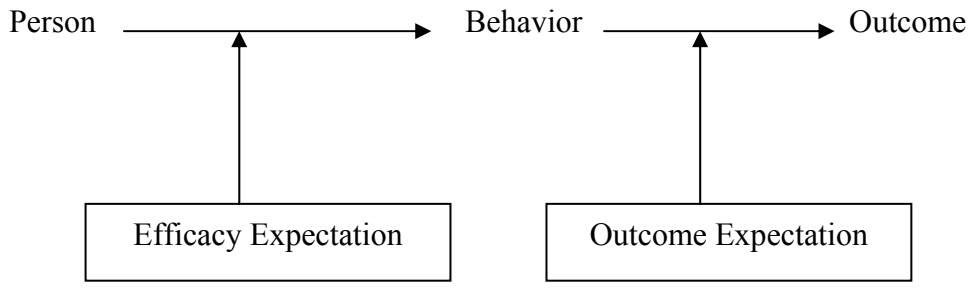

Figure 3: Self-efficacy Theory: showing efficacy expectation and outcomes expectation. (Bandura, 1997: 193)

From the theory shown in Figure 2, significant components can be described as follow :-

1. Efficacy expectation. Bandura defined it as personal beliefs in his own ability to hold on the activities through outcomes expected. It is appeared before actions taken.

2. Outcome expectation. It is an expectation on the outcomes of a specific action that has been done.

One's decision to carry on any actions depends on his expectation.

According to Bandura, self-efficacy can be developed through (Bandura, 1997: 195-8)

1. Performance accomplishment is directed-self experience of success in an action that will create self-efficacy.

2. Vicarious experience is an indirect experience by observing other person's success to drive self-attempt to achieve the same goal.

3. Verbal persuasion recommendation, persuasion and recognition by others encourage one to attempt to reach the goal with confidence. This method of self-efficacy creation is popular but has short-term effect.

4. Emotional, physical arousal such as stress, anxiety and pain can discourage and cause one to lose self-efficacy and avoidance. Support him to gradual tolerance and adaptation to these conditions is a solution.

Moreover, Bandura has proposed method for developing self-efficacy as shown in Table 2.

Table 2 : Factors enhancing Self-efficacy (Bandura, 1977: 195)

Originals of enhancing	Model of enhancing self-efficacy
Performance accomplishment	Participant modeling
	Performance desensitization
	Performance exposure
	Self-instructed performance
Vicarious experience	Live model
	Symbolic modeling
Verbal Persuasion	Suggestions
	Exhortation
	Self-instruction
	Interpretive treatment
Physical emotional arousal	Attribution
	Relaxation, biofeedback
	Gradual symbolic exposure
	Actual symbolic exposure

Research studies based on Bandura's theory revealed that self-efficacy was an important prediction factor of health behavior changes, such as self-management in chronic illness (Byrne, et al., 1993: 637-46; Dilorio, 1992: 292-307), recovery and rehabilitation behavior (Carroll, 1995: 50-7; Jenson, 1993: 926-31; Scherer & Schmieder, 1996: 343-55), and caregiving behavior of the caregiver (Schmall, 1995: 156-62). Individuals with high levels of self-efficacy are more likely to maintain protective health behavior such as aerobic exercise and stopping negative behavior such as smoking. Consequently, individuals with

efficacy expectation can increase the promotion of beneficial changes in their health behavior (Gembowski, et al., 1993: 92). In Thailand, Chareunvongwiwat, S. (1995) studied percieved self-efficacy and self-care behavior in 60 patients with myocardial infarction. The result revealed that perceived self-efficacy correlated positively with self-care behavior of the subject ($r=0.76$, $p< 0.001$). This finding was similar to other studies (Homnan, K.1996; Yamchanchai, W.1995), indicating that self-efficacy correlated positively with health behavior. Thus, the self-efficacy is a powerful predictor of actual self-care behavior.

The caregiver usually perceives caregiving as a stressful situation, therefore, self-efficacy is an important variable in the ability of the caregiver to cope with their stress. Several studies have indicated that the stress of the caregiver correlated with self-efficacy (Deimling & Bass, 1986: 778-84). Stevenson (1990: 182) suggested that stress occurred in caring for Alzheimer's patients when the caregiver's sense of perceived self-efficacy was weak. The stress was reduced when the caregiver felt more confident in performing the task of caregiving. Caregivers with low levels of self-efficacy have increased stress and depression (Haley, 1987: 323-30), whereas caregivers with high levels of self-efficacy have showed lower levels of depression (Archbold, et al., 1990: 375-84). Mowat and Spence-Laschinger (1994: 1108) analyzed a concept of self-efficacy in caregivers of elderly patients with cognitive impairment and stated the importance of self-efficacy as it is related to promoting self-care behavior in elderly people, and to reducing caregiver stress. They also suggested that caregivers who coped well with stress of caregiving may possess a high level of self-efficacy. In can be concluded that self-efficacy can reduce caregiver stress.

5. Self-Esteem

Self-esteem is a significant component for facing daily life problems and behaving properly to deal with them. It is a basic psychological element for good quality of life. It is both positive and negative attitude towards self, which is influenced by other person's opinion. The psychological basic of Maslow's human needs which are much required in all people is self-esteem. Maslow (1954: 90-1) stated that self-esteem represents emotional feeling as well as self-worth. It is also the evaluative component of the self-concept, sometimes termed self-respect, self-approval, or self-worth. Two subsets of esteem needs are : self-esteem needs which include strength, achievement, mastery, competence, confidence in facing with the world, independence and freedom, and respect needs which are the need for esteem from others including status, dominance, recognition, attention, importance and appreciation (Maslow, 1954: 90). Self-esteem is a state of being. This is a dynamic, subjective event in the bodies and minds rather than any static tangible thing that can be directly and easily observed and measured. When one experiences self-esteem the whole chain of mini-happening takes place in the flash of the instant or may slowly develop step by step over a much longer period of time (Lindenfield, 1995: 3).

Self-esteem is a positive or negative attitude toward self. People with high self-esteem can think they are very good persons while others feel "good enough". However, high self-esteem people should respect themselves, also feel inadequate in terms of certain standards they have set for themselves. They may consider themselves an average person but they are quite centered on the self-observed. Low self-esteem, on the other, implies self-rejection, self-dissatisfaction, and self-contempt. They will feel respect for self. They observe and wish that the self-picture were agreeable. In one sense, self-esteem may be high, while as in other senses it may be medium and low (Rosenberg, 1989: 30-1).

Self-esteem is the evaluation which people make and maintain with regard to themselves. It indicates the extent to which one believes oneself to be capable, that is expressed in the attitude that one holds toward him/herself. It is a subjective experience which the one conveys to another by verbal reports and other expressive behavior as an attitude of approval or disapproval. Level of self-esteem will be varied doe to conditions and individual life events. (Coopersmith, 1968: 96-106; 1981: 4-6; Rosenberg, 1965: 19)

Self-esteem has a dynamic change depending on cultural or his own preference. To maintain one's self esteem, he has to face with new challenge with courage and interrelate with others properly. Self esteem can cause appropriate behaviors by the combination of expectation of success, motivation to get through the target, initiation and facing with problems. There are four components to push someone to develop himself (Coopersmith, 1968: 95-99) such as : significant person, competence, virtue and power.

6. Health Education Strategies

6.1 Group Discussion

Group discussion is a popular process widely used. It is hold in school and other academic institute, and hospital. It is a good method for providing health education by exchanging experiences with the others. It helps the group to find out the truth, analyze it with acceptation of other person's opinions. The discussion is not aimed for definite answers, instead, participation with comments after detailed analysis of the problems, and final decision. The decision of the group is based on good reasoning, appropriateness and democratic share of opinions from its members. The quality of group is based on individualized quality of each member. (Chantramolee, S. 1994: 100-1). Peer group discussion is an effective health education strategy for group earning and long term motivation on the group. It causes decision making by standardized agreement of the group (Thanasukarn, Ch. 1996:

32). Influence of group discussion can cause changes in health behaviors. Decision by acceptance of other's opinions, with willingness, will lead to permanent adaptation of self-behaviors (Kaekoolkijakarn N., 1998:198).

Group discussion is a process of sharing opinions among group members. Thinking process is a natural process of human beings. It belongs to every own self and not limited by any rules. Thinking for real practice is harder than imaginary thinking that needs high efficacy mind. Joining with other group members in discussion causes the exchange of ideas and the consensus of the group that is the final aim of grouping and group discussion. (Katekham, W. and Chatsupakul, K. 1989: 135-136).

Principles of group discussion

In order to have a successful group discussion, group members should understand principles of group discussion. General principles of group discussion (Katekham, W. and Chatsupakul, K. 1989; Chantaramolee, S. 1983: 103) :

1. All members have to clearly understand the scope and topics of the problem, and the aims of the discussion.
2. Everyone is allowed to change his opinion with others.
3. Everyone should be a good provider and receiver.
4. The discussion should be confined within the topic of interest and should not be dictated by any members.
5. Open communication within the group is necessary.

The principles of each step of group discussion process are presented as follows :

1. **Preparation for group discussion** (Kaekoolkijakarn, N. 1998: 200-8; Katekham, W. and Chatsupakul, K. 1989: 139)

1.1 Group teacher or leader. Clients are the centers for learning process and knowledge was taken place from interrelation between group members. However, teacher or leader has to provide basic knowledge of the disease regarding

causes, symptoms, treatment and prevention, for conducting group discussion through the conclusion of the problem solutions. So, teacher or leader of the group has to prepare himself for his this task.

1.2 Group leader has to learn about leadership function in conducting group process. Role of the leader is to help the group members to achieve the goals, by providing the relax situation that makes the members discussed freely, sincerely, comfortably and reliably. Also, the leader has to help the group members learned from the ideas, attitude, and experiences from others..

The group leader has to define the goals of discussion definitely and plan about the structure and composition of group discussion such as group members should not exceed 6-10 persons for equal chance of participating discussion, appropriate location of seats, duration of discussion not more than 1-2 hours. The leader should explain the rules of discussion to the group and plan for getting opinions of from all group members because each one has different experience and efficacy. Also, the leader should be able to solve problems arisen during discussion and help prevent the distraction of the discussion.

2. Step of conducting group discussion (Kaekoolkijakarn, N. 1998: 204-5 ; Katekham, W. and Chatsupakul, K. 1989: 135-6).

2.1 Relationship and feeling of secure. The leader should introduce himself to the group and let each member introduce himself to the others, then, the goal and general rules for discussion such as no competition for expression, to be a good listener, and talking within the target of interest with creative mind. At this step, the leader should provoke each member to express his opinion about the problems and make them to feel that they are facing the same problems and try to solve them co-operatively. This also will create a sense of support, not left alone, co-operation and reliability to the group. The leader should use skills for relationship developing by showing his concern, accepting, understanding and willingness to provide help to the members which will help them feel more secured and reliable to the group. He should manage to set up a good interpersonal relationship within the group.

2.2 Recognition his own or other problems and co-operatively solve them. At this step when the members feel secured and reliable to the group, they will express their thought and opinions clearly and at the same time exchange their opinions with others to create an initiative solution to his own problems. Each member, at this step, has both provider and receiver role and feel secured, high self-esteem and proud to be able to solve his own problems properly. Apart from provocation of participation in discussion for solving problem, the leader should examine the solutions set by the group for making it practically that will make the group members confident to solve the problems by themselves.

3. End of group discussion. The leader should make the conclusion of discussion to ensure that the conclusion is easy to understand and relevant to the goals of the discussion.

Worth of group discussion (Chantaramolee, S. 1994: 104-5)

1. Development of reasoning thinking process in sharing and brainstorming among the group members. Each member will consider the opinions derived from the members.

2. Formation of Positive attitude toward other members, broad-minded, sincerity, respons bility to the group, and creativity.

3. Formation of readiness among the group members for discussion the problems by searching data and information related to the problems.

4. Formation of discussion skills and expression of opinions to the group with democratic mind.

5. Development of good listener's characteristics, cooperation with group in making decision and self-evaluation properly.

6.2 Brainstorming

Brainstorming is a technique to gather ideas from learners towards the subject of interest. By this way the one who fears of expression can be able to learn by debating within the group. It is a means to gather more ideas within a short and limited time. (Manoonpichu, N. 1997: 97).

Steps for brainstorming (Chantaramolee, S. 1994: 114-8) :-

1. Problem notification

1.1 Chairman or leader notifies the problem, topic for brainstorming and goals to the group members. The problem for brainstorming should be simplified and outlined.

1.2 Problems selected should be the one that every member is interested in and accustomed to or has related knowledge and experience. So, this can simulate every one to express his/her opinions extensively.

1.3 To describe techniques and rules of brainstorming to the members.

1.4 One or two members are selected to be the information recorders show what has been suggested on the board or where every member can see it clearly.

2. Brainstorming

2.1 Chairman introduces the topic and stimulates participation from the members to express their opinions extensively.

2.2 Unlimited number of opinions is needed, whether they are the correct solutions for the problem or not. Various points of view are needed first.

2.3 Comment from a member must not be criticized by other members or chairman until the end of the session.

2.4 Chairman has to stimulate the member who does not share opinion and knows why he/she does so.

2.5 Some additional comments may be added to what has been already expressed by some members. Someone may integrate other persons' opinions to yield a good solution finally.

2.6 Comments expressed should be concise.

2.7 The chairman should not lead the group with prejudice. He/she can add comments after all members have completed their expression.

2.8 The secretary has to gather suggestions or comments from the members to show to the group.

2.9 Initial brainstorming is stressed on analyzing the simple matters, finally it will focus on function of initiative ideas.

2.10 Duration of brainstorming may be as short as 10-15 minutes for the limitation of time and then will be turned to be the comment session. Time used for brainstorming may vary according to the difficult of problem and number of the group members. The exact duration of brainstorming session should be defined by the chairman.

3. Evaluation of all

3.1 Following the step of brainstorming, members will analyze each opinions and discard inappropriate ones. Reconsideration to select the best ones will be followed.

3.2 It there is some time left or more enough time left or detailed consideration is needed, the members may be grouped into subgroups and have them considered the detailed, and then presented to the group again.

Advantages of brainstorming

1. It is an exercise for creating critical thinking, creative thinking, and decision making by the group.

2. Stimulation of thinking process has been developed to select a new and appropriate route of problem solution by the group.

3. It is applicable for all ages, genders, and occupational and academic groups.

4. It is a good way to have everyone expressed opinions without anxious of disagreement of offensiveness which helps make the member feel more confidentce.

5. Prevention of domination of any group members has been employed.

6. It is a safe and rapid method for getting problem solutions.

Disadvantage of brainstorming

1. Few comments from the members who do not not get used to or understand the problems.

2. Limitation of time causes rush process.

3. Some members are able to think and analyze rapidly, the other is not, and this makes them loss of chances for propose their suggestions.

7. The related studies

7.1 Related studies of the cerebrovascular disease, chronic illness, and family caregivers

Singhakhumfu, L. (1989:107) studied the relationship among self-care agency, social support and quality of life of hemiplegia patients. The sample was composed of 100 hemiplegia patients who came to the followed up clinic at the Out-Patient Department of the Medical and Physical Therapy Unit and Occupational Therapy Unit of Siriraj Hospital and Prasat Neurological Hospital. The results were:

1. There was no statistically significant correlation between self care agency and quality of life of hemiplegic patients.

2. There was a positive significant correlation between social support and quality of life of hemiplegic patients.

3. There was no statistically significant correlation between social support and self care agency of hemiplegic patients.

Suthayatorn, N. (1988: 71-3) Carried out a descriptive study designed to elicit information concerning family coping behavior, confidence in dependent care and the relationship between coping behavior and confidence in dependent care. One hundred subjects were selected from the families of the cerebreovascular disease patients who admitted at Rajvitee Hospital, Payathai Neurological Hospital, and Ramathibodi Hospital. The results were as follows :

1. The problem focused coping was used more than the affected-focused coping with statistically significance.

2. The correlation between coping strategies and confident care was low. Problem-focused coping and overall coping behavior had significant positive correlation with confidence in dependent care, but no significant correlation the affected-focused coping and confidence in dependent care was found.

3. Stroke patients' family factors i.e. age, sex, marital status, education, job, experience in caring strokes, disability of the stroke patients and duration on admission, had no relationship with coping behavior.

4.Stroke patients' family factors i.e. age, sex, marital status, education, occupation, experience in caring strokes, disaability the stroke patients and duration on admission, had no effect to confidence in dependent care of stroke patients.

Kaewkun, N. (1990: 91-2) employed a quasi-experimental research design to study with stroke patients' families. The sample group consisted of 30 strokes'relatives who accompanied the patients to visit the follow up clinic at the Out Patient Department, the Medical Unit and Physical Therapy Unit, of Siriraj Hospital. The results revealed that:

1. The score of relatives' behavior for caring stroke patients in convalescent stage in the experimental group, after receiving motivation, was significantly higher than the comparison group.

2. The score of the relatives' behavior for caring stroke patients in convalescent stage was found aspects as follows :

- The score of the relatives' behavior for assistance in the activities of daily living in the experimental group after receiving motivation was higher than that in the comparison.

- The score of the relatives' behavior for prevention complications and accidents in the experimental group after receiving motivation was higher than that the comparison.

- The score of the relatives' behavior for mental support in the experimental group after receiving motivation was higher than that in the comparison group.

Williams (1994: 155-61). The caregiving stress model had been tested by with Alzheimer's disease patients. Relatively little information is available on stressors for caregivers of stroke victims. Caregivers of persons with stroke therefore were asked to respond to the Brain Impairment Behavior Inventory (BIBI) and the companion Brain Impairment Behavior Bother Scale (BIBBS) and to list the three most important stressors for them. The behaviors of the persons with stroke which were most stressful for this sample of caregivers were irritability, dependence with resulting caregiver confinement and immature behavior.

Arnantapunpong, T. (1995: abstract) used Orem's general nursing theory to guide a quasi-experimental research to test the effects of family participation in caring of the hospitalized elderly patients on patients' recovery and family satisfaction with nursing care. The purposive samples consisted of sixty pairs of relatives and female elderly patients who admitted in Chulalongkorn Hospital. The first 15 patients were assigned into the experimental group and the other 15 patients who were hospitalization later were assigned into the comparison group. Subjects in both groups received routine nursing care, but the subjects in experimental group received care from family participation in addition. For each patient, functional status and mental status were evaluated before and after the experimental period by using Katz's index of independence in activities of daily living and Folstein's mini-mental state examination. Family satisfaction was measured by La Monica's patient satisfaction scale. The results of the study revealed significant statistical difference between the experimental and comparison groups in mental status but no significant

statistical difference between the experimental and comparrison groups in functional status which consisted of activity of daily of living, complication and duration of hospitalization. For the family satisfaction, there was statistically significant difference between the experimental and the compaarison groups.

Boonkerd, A. (1997:103-5) used quasi-experimental research design to study the effectiveness of discharge planning given to 50 purposive selected cerebrovascular disease patients admitted at Taksin Hospital and their caregivers. The data on patients' ability to perform daily activities and their caregivers caring ability were collected through interviews, observation, and return demonstrating. The pre-test and post-test measurements were carried on during hospitalization and a follow-up period at home. It was found that the post-test abilities were significantly higher than the pre-test abilities, and the follow-up test abilities were significantly higher than the post-test abilities in both patients and caregivers.

Srepatarapinyo, J. (1997: 72-3) studied the effects of teaching and skill training for caregivers of cerebrovascular disease patients on caregivers' caring ability and patients' health status. Participants were 40 primary caregivers of cerebrovascular disease patients who were admitted in Neurological Unit at the Neurological Institution of Bangkok. They were purposely and equally assigned into experimental and control group. The intervention techniques used for the experimental group were teaching and skill training provided by the researcher. The intervention techniques used for the control group were teaching and skill training provided by the hospital's personnel. The results of the study revealed statistically significant difference, in the experimental group, between cargivers' caring abilities and the patient's health status.

Hirunchunha, S. (1998: 158-60) used action research to develop a care model for caregivers of stroke patients at home. The research process was based on a mutual collaboration approach among the researcher, 15 primary caregivers and their families, and the health team. The findings revealed that the suitable care model for caregivers of stroke patients at home consist of caregiver transformation process, promoting care at home, care-related factors, caregivers' caring competencies, and

caring outcome. Caregivers' transformation process is comprised of four stages: inability to adjust/think, a transformation period, seeking/modifying caring techniques, and settling into a normal lifestyle. Promoting care consists of preparing caregivers, developing caregivers' caring and self-management abilities, developing self-reliance on their caring abilities and adjusting to their role, and maintaining quality of care and adjusting their lifestyle. Moreover, the strategies in promoting care include building trust and confidence, promoting self-reflective skills, mutual participation, seeking support groups, empowerment, incorporating traditional and non-traditional caring beliefs, reinforcing caregivers' abilities, providing mutual encouragement establishing spiritual support, and being friends. Finally, care-related factors consist of caring experiences, family participation, hope, family support, caregivers' health status, levels of self-care demands, social support, creativity of caregivers, and economic status.

Potaya, S. (2001:211-6) used participatory action research, based on Orem's General Nursing Theory, aimed to develop the model for family caregivers' participation in caring for traumatic brain injured patients at Bhumibol Adulyadej Hospital. The participants were 30 nursing staff, 22 family caregivers and 20 brain-injured patients. The findings helped develop a 5 phases-model for family caregivers' participation in caring for traumatic brain injured patients. The model comprised of 4 elements :

1. The phenomenon of family caregivers' participation in patient care that included 5 phases of action:
    - desperately need for reliance
    - ready for participation
    - sharing of care
    - establish self-efficacy before going home
    - self support.
2. The promotion of family caregivers' participation in care consists of :
    - providing care for patient and the family caregiver
    - caregivers' ability development

- self-care ability development of the patient and maintain the caring ability of the family caregiver
- building self-efficacy
- facilitating the transitional period

3. Factor influencing the dependent care agency included:
   - trust and reliability
   - caring and compassion of the nurses
   - sharing information among family members and helping each other
   - caring experience
   - hope
   - reflection
   - support group
   - the patient's recovery

4. The care outcome

Five strategies were used to improve nurses' caring attitude and behaviors; reflecting on quality of care, providing information and knowledge, role modeling, providing support, and reinforcement. After participating in the program, nursing staff and family caregivers perceived and were satisfied with participation in patient care. There was statistically significant difference between before and after receiving collaborative care in patient' s recovery.

Ya-orm, Y. (2001:66-79) employed the quasi-experimental research with one-group pre-posttest design to determine the effect of promoting family participation in patient care of head injury patients on patients' health status and family's care ability in giving patient care. The samples consisted of nineteen head injury patients and twenty-one relatives who were admitted to Pranangklao Hospital, Siriraj Hospital and Bangjkok Metropolitan Administration Medical College, and Vajira Hospital. The intervention were conducted while the patients stayed in the hospital and continued to the 4^{th} week after hospital discharge. The finding from this study showed that the mean of patients' scores at the pretest phase were significantly decreased at the 4^{th} week after hospital discharge.

Patients' complications in this study were respiratory complications, urinary tract infection, pressure ulcer, stiffness of joint, and infection of surgical wound.

Buddhawan, N. (2002:86-7) analyzed the factors influencing the health status of caregivers of postoperative neurosurgical patients. The participants were 110 primary caregivers of postoperative neurosurgical patients at home, at least 3 weeks after hospital discharge. Data were collected Neurosurgical Out-Patient Department, Bhumibol Adulyadej Hospital. The most common relationship of caregivers to the patients was that of spouse, and most caregivers had secondary caregivers to help them take care of their patients. About 30% of primary caregivers had some diseases or illnesses before becoming the caregivers, while 62.7% developed physical symptoms, diseases or illnesses during caregiving. The results indicated that capability of caregivers and social support had a positive relationship to the health status of caregivers ($p<0.001$), but stress and sense of competence, had a negative relationship to the health status of caregivers.

7.2 Related studies about empowerment

Wallerstein & Bernstein (1988: 379-94) used empowerment education of Paulo Freire, a brazilian educator, to reduce alcohol and substance abuse among high school students in Mexico, where the problem was intended. The program aimed to reinforce the risk students to be able to control their selves and avoid from contacting substances and finally to cause impacts on social actions. Volunteer-student leaders was trained to interview patients with motor accidents from alcoholic drunk and chronic alcoholism. The session of interview was recorded in VDO tape to be used as a code for empowerment. After that the leader showed and discussed the problem with other students by using the tape recorded as media and topic to initiated sense of responsibility to deal with self and social abuse problem. Result of the program after 8 moths, the experimental group had significant higher recognition about alcoholic and substance abuse during driving, also the expansion of understanding and the formation of student group against substance abuse in the society after 3 years. Pensirinapa N. (1995: 128-50) has

studied the effect of empowerment in prevention of initiation of smoking among high school students in Supanburi Province. The researcher and teacher set a five-day program for 48 student leaders selected by definite criteria from 12 classrooms. They were trained to set activity and plan for non smoking activity for their classmates. The result showed high self-esteem and positive attitude towards non-smoking among the experimental group both immediate and long-term follow up period. However, there is no difference in confidence to resist smoking, more positive change in smoking behaviors and attitude on smoking were found in the comparison group. In regard to education, student leaders were trained for 30 hrs so that they can teach their classmates and general people. This program aimed to promote self-esteem formation and good quality of life. After 1 year, it is found that the student leaders can teach their classmate and others students in the school, and they success in contact with their classmate that parents or teachers never did so (Margulies and Ito 1990: 57-9). Hutchings (1999: 128-31) presented the study on partnership in education: an example of clients and educator collaboration. The article describes one education strategy designed to assist nursing staff in the process of "learning to surrender"; the service provider's need to direct client decision making. Using the health promotion principle of "client as expert", a nurse educator and a client with advanced multiple sclerosis co-present an in-service class about the importance of personal empowerment and environmental mastery for maintaining physical and psychological well-being in the face of a chronic disorder. This collaborative strategy provided the client a forum from which to share his personal experience and professional knowledge to influence attitudes and provide valuable information to nursing staff in a long-term care facility. Collaborating with the client to bring information to nursing staff is one means to foster a climate of client empowerment, influence staff perceptions and communicate the unique experience of the client. Banyard & Graham-Bermann (1995: 479-91) studied "Building an empowerment policy paradigm: self-reported strengths of homeless mothers". Self-reported strengths of 64 mothers of young children residing in a temporary shelter for homeless families were documented. The strengths most frequently reported included ability to take action, parental competence, and determination in the face of stress. Anderson, et al., (1991: 584-

90) developed a four step patient empowerment counseling model to provide the basic framework for the counseling skills taught in a diabetes care. The second step involved personalizing the problems. The third step involved helping patients to clarify their health related to diabetic care and other aspects of physical, intellectual, emotional, social and spiritual well-being. The fourth focused on helping patients to develop and commit to a specific plan to achieve goals. The role of counselor is to facilitate the process without trying to direct or control it, but the patients control themselves. The results of their experiences in problem solving and the facilitator's role required insight and sensitivity. Educators must be able to infer from the tone of voice, posture, facial expressions, and their own experience along with the elements of the patient's presentation which would be the most productive to explore and resolve. The patient empowerment approach to diabetes education was intended to enable patients to make informed decisions about their own diabetic care and to be a fully responsible member in the health care team. Facilitating patient empowerment required a specific set of skills and attitudes on the part of diabetes educators. The professional education program was designed to facilitate the acquisition and enhancement of the requisite skills and attitudes was implemented, and evaluated. The program involved adhering to a simulated diabetes care segment for 3 days, followed by 3-days intensive skill-based workshop. The 23 diabetes educators who participated in the first two offerings of the program made significant gains in counseling skills, and demonstrated a positive change in attitude. The findings suggested that diabetes educators may not necessarily be able to implement a patient empowerment approach just because they understood it and agreed with philosophy. Many of the educators in the program struggled to change their deeply ingrained behaviors and concepts to use the patient empowerment counseling skills successfully. In so doing, they required some important insights about themselves and gained useful skills. For successful learning, education must be conducive to risk taking. When such an atmosphere was provided, a framework for experimental self-directed learning was offered, and diabetes educators were able to make significant changes in both attitudes and education skills.

Gibson (1995: 1201-10) studied empowerment in mothers with chronically illness child and found that many of them could cope with their facing problems and develop sense of control, which is the main target of empowerment. He concluded that empowerment is a social process to help people to realize their self-efficacy to deal with their own problems. He studied 12 mothers of chronic neurological-disease children, aged 25-49 years old by observation and in-depth interviewing within 12 months. These are the mothers who are considered by staffs of neurological unit of a north-eastern hospital in US, as the ones who have sense of control. The result was analyzed qualitatively to find out the main frame for development of sense of control. Preceding and influencing factors that affect the formation of sense of control among these mothers include: 1) Discovering reality: is a period of immediate post diagnosis or problem identification either physical, psychological or other conflicting problems. 2) Critical reflection: is a period that the frustration was turned to be catalyst for evaluation of the problem, self response and efficacy and find the ways to deal with the problems creatively base on personal needs, believes, attitudes and life target. This step will take place in good relation and reliable linkage with someone who is talented and moral. 3) Taking charge: in this step, one learns to solve problem by making relation, persuasion and making connection with other clients or staffs, first, then to ask for health care as needed. One will show responsibility on his own problem to urge for response from staffs and communicate to the staff openly to call for co-operation in dealing with his own problem to urge for response from stages and communicate to the staff openly to call for co-operation in dealing with his own problem through the goal. Finally, one will learn to live and behave properly under real condition in order to maintain health. 4) Holding on: this is the final step when all the first three have been passed through successfully. One will be strengthened or empowered and confident in solving his problem and maintain the third step continuously. This will further strengthen one's self-efficacy and confidence in controlling the situation and taking care of his own or other's health under his care. Factor that influentced the success of empowerment is commitment of the empower to make the client strengthen enough to dealing with their problems and had good health. Moreover, bonding and love between the

empowerer and clients is another factor that determines success. The two should rely on each other, co-operated planning and taking actions and from bonding through all steps of the process based on compromised interpersonal differences in beliefs, experiences, mode and social support. Davidson & Danger (1997: 187-95) studied empowerment in patients with prostate cancer to prove the hypothesis that empowerment can help them to make decision in treatment plan and reduce their anxiety or depression. Sixty prostate cancer patients were divided into two groups; thirty cases in each group, and the experimental group was empowered according to Conger and Kannungo's model which was developed from administrative and psychological theories. (Self-efficacy Theory by Bandura). The process of empowerment was divided into five steps.: 1) Identification of cause of losing power ; 2) Setting strategy for empowerment by sets of information and questions about illness that the patient can directly ask the physicians and VDO tape recording the counseling session; 3) Preparing for self-efficacy promotion and getting rid of source of powerlessness; 4) Power formation; and 5) Evaluation. In the control group, they were provided only description or information of the illness. Program evaluation was done by measuring of anxiety and depression scores at pre- and at the sixth week after the experimentation.

Pensirinapa, N. (1995: iv-v, 79-101) studied the effect of and empowerment education on smoking prevention program for the secondary school students, in Suphanburi Province. It was found that the empowerment education for smoking prevention program was effective significantly in improvement of self-esteem, smoking activities, as well as preventing smoking behaviors among the student leaders. For the target students, there were significantly positive changes in self-esteem, self-efficacy and regular smoking behaviors in the experimental group, than in the control group at the posttest. And it was suggested that the empowerment education can be implemented in a school-based smoking prevention program.

Florain & Elad (1998: 239-47) studied the impact of mothers' sense of empowerment on the metabolic control of their children who had juvenile diabetes. The study objective was to examine the relationship between mothers' sense of empowerment as a psychological resource and the level of adherence to the treatment and metabolic control of their adolescent children with insulin-dependent diabetes mellitus (IDDM). There were 88 mothers who completed the Family Empowerment Scale, the Mastery Scale, the Self-esteem Scale and the Demographic questionnaire. At the same time, the level of glycohemoglobin was retrieved from their medical files. Data analysis revealed that the mothers' sense of empowerment contributed significantly to their children's adherence to treatment. Moreover, the mothers' sense of empowerment and their education explained a significant proportion of the variance in their children's metabolic control. The finding supported the importance of developing and enhancing the parent's sense of empowerment toward better adherence and metabolic control of their children's IDDM.

Chunchote, W. (1997:iii) studied the effectiveness of an empowerment training program on the development of attitude, self-esteem, and self-efficacy in nursing students, 34 samples in the control group and 34 in the experimental group. It was found that the experimental group demonstrated significantly higher mean scores of attitude, self-esteem and self- efficacy in the post-test than in the pre-test at p-value 0.01. These mean scores were also significantly higher than the control group in the post-test at p-value 0.01. Nursing students in the control group were from the Faculty of Nursing, Praputhabath College, while those in the experimental group volunteered for the study and the control group were purposively selected; both groups were tested for nursing professional attitude, self-esteem and self-efficacy. The experimental group received the 3-day empowerment training on nursing professional attitude development and was followed up once a week for 3 weeks. The control group received no training. The instrument for data collection were Nursing Professional Attitude Scale, Self-esteem Scale and Self-efficacy Scale. Data were collected at pre-test, post-test and 1 month later. T-test and paired t-test were used for data analysis. The results revealed that the empowerment training was effective and it was

recommended that the program should be done continually with continuous support from the college administration and instructors.

Sathirapanya, C. (2001:206-10) used a quasi-experimental research, two groups pre-posttest design, to examine the effectiveness of an empowerment program for enhancing quality of life among ischemic stroke patients admitted in Songkhla Neuropsychiatric Hospital and their relatives. The experimental and control groups included 38 cases, where matching the variables which affected quality of life with participation in empowerment program (based on Gibson's model) for 7 days was used for the experimental group, while the control group received routine care only. The program was emphasized on learning through participation in group activity and discussion to learn about the cause of disease and its impacts. Causes of problems by the disease and their solutions including biofeedback and breathing exercise for relaxation from stress were also emphasized. Their relatives were trained to develop support skills in caring for patients. The results revealed that the empowerment program could affect on the increased quality of life in stroke patients in the experimental group significantly, from low level to high level. Self-esteem and self-efficacy of the patients and their relatives in the experimental group were significantly increased. Knowledge and skills for caring patients among the relatives of experimental group were also significantly improved.

The conclusion of related concepts, theories and research literature

The concepts, theories and research studies that emerged from the literature review give light to the researcher on the phenomena of empowerment, care-giving ability, self-efficacy and self-esteem with family caregivers of cerebrovascular disease patients. The findings of many studies showed the problems of family caregivers for caring the cerebrovascular disease patients. Besides the problems and needs, many family caregivers tend to exhibit diminished self-esteem when they realize they have to live with disabled patients. This low care-giving ability, self-efficacy and self-esteem can cause powerlessness that make them had

problems in caring for their patients in the future. They do not continue to care of themselves and other. Empowerment is a crucial strategy to enhance self-care ability, self-efficacy and self-esteem .The concepts, theoretical perspectives and research findings bring much attention to examine the effects of program through care-giving ability, self-efficacy and self-esteem development in family caregivers of cerebrovascular disease patients. The empowerment was expected to promote care-giving ability, self-efficacy and self-esteem development which them could result in sustainable care abilities for cerebrovascular disease patients with increasing care-giving ability, self-efficacy and self-esteem among family caregivers.

CHAPTER III
MATERIALS AND METHODS

This chapter presents the research materials and methods which were organized along the following topics. Firstly, the design of this research as well as the study population and sample were described. Then the research intervention, instruments and their quality development, the process of data collection, and statistical analysis of the data were discussed.

Research Design

The design of this study was a quasi-experimental research design. One group pre-posttest design aimed to assess the effect of an empowerment program in increasing care-giving ability, self-efficacy, and self-esteem among family caregivers of cerebrovascular disease patients attending at 72/4 Neurosurgical Ward of Siriraj Hospital. The sample included cerebrovascular disease patients and their family caregivers participated in empowerment process. The scheme of the research was as follow:

O_1 ---------- O_2X_1 ---- ------- X_2 ---------- X_3-------- -------X_4O_3

2 wk 4 wk 8 wk 12 wk

Where :

O_1	refers to pretest data collection I
O_2	refers to pretest data collection II
$X_1X_2X_3$ X_4	refer to the intervention activities
O_3	refers to posttest data collection

O_1, O_2: refer to the data collection before the experimentation by interviewing and having the subjects answered the questionnaire regarding socio-demographic characteristics, The Extended Glasgow Outcome Scale, Denyes & Filday Dependent Care Agency Instrument, Self-efficacy Scale, and Self-esteem Scale.

X_1 : refers to the step 1 of the intervention activities, the activities were aimed to develop the cerebrovascular disease knowledge, during the first individual contact, the researcher provided some essential information about cerebrovascular disease. The topics that were discussed initially with the patients were: what is cerebrovascular disease, signs and symptoms of the disease, risk factors and prevention the disease, treatment, and practices. The demonstration on the following subjects were also included: general health care, feeding, exercise, and emotional support.

X_2 : refers to the step 2, at the 4^{th} week of the intervention activities. This step was aimed to develop caring ability for cerebrovascular disease patients. It included developing self-efficacy, self-esteem by using techniques of brainstorming group supporting and group discussion.

X_3 : refers to the step 3, at the 8^{th} week of the intervention activities. This step was aimed to develop self-esteem. It involved developing emotional, evaluative, and cognitive components.

X_4 : refers to the step 4, at the 12^{th} week of the intervention activities. This step was aimed to develop self-efficacy. Since there was the need to train the family caregivers to perceive their own self-efficacy and sufficient skills to achieve the aim of caring of cerebrovascular and make them realized that they can make it. There was also the need to empower them to master experiences, and to perceive their self-efficacy. At the end of this step, it was also aimed to evaluate the family caregivers regarding their care-giving ability, self-efficacy, and self-esteem after participated the empowerment program.

O_3 : refers to the data collection after the experimentation by interviewing and having the subjects answered the questionnaire regarding socio-demographic characteristics, The Extended Glasgow Outcome Scale, Denyes & Filday Dependent Care Agency Instrument, Self-efficacy Scale, and Self-esteem Scale

Population and Sample

The study populations were cerebrovascular disease patients admitted in 72/4 Neurosurgical Ward of Siriraj Hospital Bangkok November 2002 tol May 2003 during and their family caregivers.

Criteria for Selection of the Sample

Inclusion criteria for the family caregivers were as follows :

1. Direct descendant family caregivers such as parents, spouse, sons, daughters, siblings, relatives, or significant in patient's life;
2. The main person who was responsible for takeing care of the patients, had been trained for taking care and providing social support for the patients and did not receive any reward or monetary return for the service ;
3. They have to look after the patients for more than three consecutive weeks ;
4. Aged over 15 years old. ;
5. Were able to speak and understand Thai language ; and
6. Were consensual participants in this study.

Sample Size

This study was a quasi-experimental research design. Polit & Hungler (1983: 426-27) suggested that the sample size is preferably 20 to 30 subjects with at least 10 participants, therefore, 30 family caregivers were selected.

Materials of the Study

The materials used in this study were: data collection instruments and instruments for conducting an empowerment program.

Instruments for data collection

a. Instruments for collecting data from patients with cerebrovascular disease

1. Demographic Characteristics Questionnaire

This questionnaire consisted of the following components:

1.1 The questionnaire eliciting data concerning personal charecteristics of the patients including sex, age, education level, marital status, family status, occupation, income, and co-morbidity.

1.2 The questionnaire eliciting data concerning the illness of the patients including clinical diagnosis, concious level, motor weakness, health problems regarding daily activity, complication after the illness.

2. The Extended Glasgow Outcome Scale (GOSE)

This scale was used to assess the intensity of the patient's neurological condition. This instrument was developed from GOS constructed by Jennett and colleagues (1981: 285-93).). The assessment was divided into five levels.As for GOSE, the assessment was divided into eight levels by Wilson and colleages (1998: 573-85). The reliability value derived from the observation kappa

value was 0.85. This instrument was translated into the Thai language by Thosingha, O. (2000). Two bilingual linguists were also asked to check the accuracy of the language. The eight categories of the GOSE were as follows:

Level 1 = 8 points : There is a very high chance of mortality. The Glasgow Coma Scale results were only 3 or 4 since the very beginning.

Level 2 = 7 points : The patient was in a vegetation state. He or she could not help him/herself and did not have mindful responses.

Level 3 = 6 points : The patient had the highest degree of impairment. He or she needed constant care from others in performing all or almost all daily life activities.

Level 4 = 5 points : The patient had very high degree of impairment. He or she needed care from others in performing a number of daily life activities.

Level 5 = 4 points : The patient had a moderate level of impairment. He or she could take care of him/herself when at home; care was required from others when the patient was outside the house.

Level 6 = 3 points : The patient had slight impairment. He or she could take good care of him/herself but required the assistance from others in performing some activities when going out of the house. In addition, the patient could do some work which was lighter than what he or she used to do before the neurological condition. However, there were certain limitations of social and recreational activities.

Level 7 = 2 points : The patient had a slight chance of recovery. He or she could take care of him/herself to certain extent. However, the patient still have problems concerning interaction or communication with family members or colleages. He or she sometimes had behavioral and emotional problems but was still able to participate in some social or recreational activities.

Level 8 = 1 point : The patient had a very good chance of recovery. He or she was very like to life a normal life, being able to take care of him/herself and to go back to work.

It is worth noting that the present study did not include the patients in Level 1 whose condition was too severe to be treated at the Neurosurgical Out-patient Department as well as the patients in Level 8 who were able to attend the follow-up without having to be accompanied by a family caregiver. As such, this study was conducted with the patients whose GOSE score was at Level 2 to 7, with the lower scores reflecting less severity of neurosurgical condition and higher scores indicating more severity of the condition.

b. Instruments of collecting data from family caregivers

1. Demographic Characteristics Questionnaire

This questionnaire consisted of the following components:

- The questionnaire eliciting data concerning personal characteristicsof the family caregiver including sex, age, education level, marital status, family status, occupation, family's income, and the experience of caring for the cerebrovascular disease patient.

2. The Denyes & Filday Dependent-Care Agency Instrument

This questionnaire was developed by Denyes and Filday (Denyes, 1986: 63) and subsequently translated into Thai by Somnarin, O. (1995: 48-50). After the Thai version of the instrument was tested with 20 caregivers of AIDS patients, the Cronbach's coefficient was found to be 0.90. In addition, Tosuksri, W. (1996: 34) tested the instrument with heart attack patients, and the reliability was 0.88.

2.1 This questionnaire was particularly designed to assess capability in providing care for the dependent. All 31 items required the responses in the form of Linear Analog Scale. Asking the respondents to assess each item and judge how much they had experience, feeling, thought, understanding, skill and motivation as specified in the items, ranging from 0 (none) to 10 (always). Furthermore, of these 31 items, 26 were positive items and 5 were negative items (items 16, 17, 19, 27, and 28). The scoring is as follows:

Positive items	Negative items
0 1 2 3 4 5 6 7 8 9 10	10 9 8 7 6 5 4 3 2 1 0

The respondents have asked to assessed each item and rated their feeling or knowledge giving each item the score from 0 to 10. The total scores would be then calculated by adding the scores given to all 31 items; thus, the total scores would range from 0 to 310. After that, the mean score of ability to provide care to dependent would be calculated. The criteria used in interpreting the scores (the scale of 0 to 310) were as follows:

0 - 62	point	=	the lowest caregiving capability
63 - 124	points	=	low caregiving capability
125 - 186	points	=	moderate caregiving capability
187 - 248	points	=	high caregiving capability
249 - 310	points	=	the highest caregiving capability

3. The Self-Esteem Scale

This scale was developed based on Rosenberg's theory. It included 10 items positive and negative, and four-point scales. The scoring system was used as follows:

Answer	**Score of a Positive statement**	**Score of a Negative statement**
Strongly agree	4	1
Agree	3	2
Disagree	2	3
Strongly disagree	1	4

According to Best (1997: 174), self-esteem scores were grouped into 3 levels, as follows:

Level	**Score**
High	31-40
Moderate	21-30
Low	10-20

4. The Self-Efficacy Scale

This scale was developed based on Bandura's theory. It included 20 items five-point scales. The scoring system used was as follows:

Answer	Score
Very confident	4
Sort of confident	3
In between confident	2
Not very confident	1
Not at all confident	0

Best's assessment rule (Best, 1977:174) was applied to group self-efficacy scores into 3 levels, as follows :

Score	Level of Self-efficacy
Between 0-26.67	low
Between26.68-53.34	moderate
Between 53.35-80	high

Instruments' quality assessment

Validity

Five experts were asked to review the four questionnaires: the Extended Glasgow Outcome Scale, the Denyes & Filday Dependent – Care Agency Instrument, the Self-efficacy Scale, and Self-esteem Scale, for content validity, clarity, and language appropriateness. These five experts were:

- One neurosurgeon from the Department of Neurosurgery, Faculty of Medicine, Siriraj Hospital, Mahidol University.
- Two nursing instructors from the Department of Surgery Nursing, Mahidol University.
- One nursing instructor from the Department of Medical Nursing, Mahidol University.
- One nurse supervisor from the Department of Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University.

Reliability

After the questionnaires were revised and adjusted based on the suggestions and comments of the experts, they were tested for reliability with both of 30 cerebrovascular patients and their family caregivers who shared similar characteristics as the subjects of the study. Cronbach's alpha coefficient was calculated, and the results were as follow:

- The Denyes & Filday Dependent- Care Agency Instrument was 0.72
- The Self-efficacy Scale: the reliability was 0.80
- The Self-esteem Scale: the reliability was 0.89

Research procedure

Data Collection

The researcher conducted data collection herself by asking for permission to collect data as a student of the Faculty of Graduate Studies, Mahidol University. After permission was granted, the researcher collected data from caregivers who were primary caregivers of cerebrovascular disease patients who admitted at 72/4 Neurosurgy Ward, Siriraj Hospital. The following steps have been employed :

1. The researcher submitted the letter of the Dean of the Faculty of Graduate Studies, Mahidol University, to the Dean of Faculty of the Siriraj Medicine, Mahidol University.

2. The researcher explained the objectives of the study and data collection procedure to the head nurse of the 72/4 Neurosurgical Ward, Siriraj Hospital to ask for cooperation in data collection.

3. The subjects were selected based on the criteria set. The selection was done based on the information obtained from the register as well as from the patients or the family caregivers themselves.

4. The researcher introduced herself to the potential subjects, explained the purposes and procedures of the research, and asked for cooperation in data collection from the family caregivers of cerebrovascular disease patients.

4.1 The researcher collected data using the Extended Glasgow Outcome Scale in the first part of the questionnaires and recorded the results of the assessment.

4.2 The researcher asked the family caregivers who were literate to fill out the second part of the questionnaires which included the Denyes & Filday Dependent-Care agency Scale, Self-efficacy Scale, and Self-esteem Scale.

4.3 In case that the family caregivers were illiterate or inconvenient to fill out the questionnaires, the researcher would interview the family caregivers by using the questionnaires, letting the caregivers choose the responses verbally instead.

Human Right Protection

The research was conducted after the final permission was granted by the Committee on Human Rights Related to Human Experimentation Faculty of Graduated Studies, and the Human Subjects Committee of the Faculty of Medicine, Siriraj Hospital, Mahidol University. The researcher was well aware of the research ethics. Therefore, the utilization of the data collected from the subjects would be used in consideration of the integrity, value, and possible effects on the subjects. As such, before the data collection process began, the potential subjects would be explained about the research objectives and the data collected from them. They would be ensured that their participation in the study was based purely on a voluntary basis and that they could withdraw from the study at any time if they wished with no negative effects on the treatment the patients would receive. They also had a chance to ask questions for clarification, and they were asked to sign the informed consent form (Appendix B) before data collection started.

The Empowerment Program

The empowerment program developed by the researcher was based on the following steps :

1.1 Review of the textbook, journals and research works concerning the theoretical concepts of Gibson (1995) for the process of empowerment which consisted of four steps, as below:

Step 1 Discovering reality: helping the family caregivers of cerebrovascular disease patients to evaluate themselves about :

- Their knowledge and understanding of the disease, compliance with the treatment plan, and the effects of having the patients with cerebrovascular disease.
- Understanding their emotions, thoughts and behaviors.
- Understanding the reason why they are not prepared to communicate directly with the health professionals.

All of these can be done through sharing discussion of their knowledge, experience, thoughts and feelings. In this way, the persons can discover their own success in managing themselves to care for their patients and also learn about others'experiences. The family caregivers then evaluated and compared their own standard themselves, and by taking information from the group.

Step 2 Critical reflection: helping the family caregivers to reconsider the evidence of what has happened to them in order to make decisions and manage the problems appropriately. The family caregivers can uncover/discover their own abilities from sharing experiences with the others. They could find useful method s for themselves from the other family caregivers'experiences, for example, the emotional experience of each family caregiver, as well as the method and problem-solving when caring for their patients, by observing and learning from the other family caregivers who are facing the in similar situations.

Step 3 Taking charge: to develop the abilities of the family caregivers to control and make own decision by providing them necessary information, such as how to cope with stress; effective communication; knowledge about the nature, symptoms and signs of the disease; the care to be given to the patients. This was performed by demonstrating and letting the family caregivers follow the method, to make sure that they can do it by themselves and also by encouraging and supporting them to overcome the problems.

Step 4 Holding on: to assure self-confidence, strength and ability of the family caregivers, by having them practiced skills until they gained confidence. Through this friendly two-way discussion on problems they were facing, stress and worry can be reduced and their positive thoughts can be maintained.

1.2 Provision of individual and group treatment, by organizing the meetings with the family caregivers through the following four stages:

Stage 1: Individual health education

1. Building the relationship between the researcher and the family care- giver, as follows :
   - Verbal language:
   - Greeting
   - Asking the family caregivers to introduce themselves, as well as the information about the patients, such as age, gender, and position in the family and their disease symptoms (for the first time only).
   - Introductory talking about the program to the family caregivers
   - Agreement on the topic for assignment, time used, confidentiality level.

Non-verbal:

- Friendly attitude.
- Appropriate distance between the researcher and the family caregiver by sitting in a warm and friendly atmosphere.
- Suitable eye contact.

Stage 2 : Action phase : the designed empowerment program composed of the following main contents:

- Acceptance,
- Coping,
- Communication, and
- Knowledge about cerebrovascular disease, such as its meaning, signs and symptoms, and treatment.
- Compliance behaviors concerning medication, food, activities, rest, prevention, observed signs and symptoms, and helping measures when the patients have symptoms.

The program contained 3 sessions: 1) cerebrovascular disease 2) effects of the disease 3) caring for the cerebrovascular disease patient.

Each session, consisting of 4 processes of empowerment, as follows :

Session 1: Cerebrovascular disease

1. Discovering reality: allowing the family caregivers shared their ideas about cerebrovascular disease.
2. Critical reflection: letting the family caregivers reflected upon their understanding about the cerebrovascular disease.
3. Taking charge: educating the family caregivers to know about the definition, signs and symptoms, risk factors of the disease, and the treatment.
4. Holding on: letting the family caregivers asked questions and reviewed their knowledge about cerebrovascular disease, and providing encouragement to the family caregivers.

Session 2 : Effects of the disease

1. Discovering reality: letting the family caregivers shared their idea of the impact upon their patients and themselves.

2. Critical reflection: helping the family caregivers understood the cause of mobility in their patients, and reflecting its related impact on themselves and what they can do to reduce the impact.

3. Taking charge: educating the family caregivers about the impact of illness to their patients and themselves.

4. Holding on: letting the family caregivers asked and reviewed knowledge about the impact of the illness that may occur to their patients, and also encouraging the family caregivers.

Session 3: Caring for the patients

1. Discovering reality: letting the family caregivers shared their experience in caring for the cerebrovascular disease patients, in respect of their medical, feeding, and the others activities.

2. Critical reflection: letting the family caregivers reflected upon their knowledge of caring for the cerebrovascular disease patients, in respect of their medical, feeding, and the others activities.

3. Taking charge: educating the family caregivers about caring for the patients concerning their medication, feeding, and the others activities.

4. Holding on: letting the family caregivers asked questions and reviewed their knowledge about patient-care, then practicing until they can do it correctly; giving the family caregivers encouragement.

Stage 3 Closing the group: Before the end of program activities, the following activities were organized :

- Allow the family caregivers of cerebrovascular disease patients asked their questions or gave their addition opinions.
- Letting the group members made conclusions on discussed matters.
- Making an appointment for the next meeting, which includes the time, the place and the topic to be discussed.
- Saying thanks to all group members for their attention and co-operation.

Statistics and data analysis

The data were analyzed by using the statistics as follows:

1. Descriptive statistics determining mean, standard deviation, frequency, distribution, and percentage were performed to describe the general information data such as sociodemographic characteristics of the target population, care-giving ability self-esteem and self-efficacy.

2. Paired t-test was conducted to examine the difference in care-giving ability, self-esteem, and self-efficacy between pre-test and post-test.

CHAPTER IV
RESULTS

The results of this study were presented into two parts : the first part was the characteristics of patients and family caregivers the second part was the findings related to research hypotheses, as follows:

4.1 Characteristics of cerebrovascular disease patients

Firstly, 39 cerebrovascular disease patients have been contacted by the researcher. After the pretest data were collected, there were only 30 cases participated in the program because nine cases were excluded because they died with the complications.

The majority of the sampled patients were male (70 %). The largest number (33.3%) of the patients aged 45-60 years and aged 41-50 years (33.3%). The majority (83.3 %) of them were married and the majority (46.7%) of them finished primary school level. Some finished secondary school (26.7%). Regarding the status in the family of the patients, 70.0% were heads of family, while 30.0% were members of family. The highest percentage of the patients were employees (33.3) The next largest occupational groups were housewife and merchant 26.7%. the large percentage of the patients indicated that they had enough income but had no savings (70%) as details in Table 3.

Table 3 Distribution of number and percentage of cerebrovascular disease patients by characteristics

characteristics	Number	Percentage
Sex		
Female	9	30.0
Male	21	70.0
Age (years)		
15-30	3	10.0
31-45	7	23.4
46-60	10	33.3
61-75	10	33.3
Marital Status		
Single	1	3.3
Married	25	83.4
Divorced / Separated	4	13.3
Education Level		
None	2	6.7
Primary school	14	46.6
Secondary school	8	26.7
Certificate / Diploma	4	13.3
Bachelor’s degree/higher	2	6.7

Table 3 Distribution of number and percentage of cerebrovascular disease patients by characteristics (continued)

Characteristics	Number	Percentage
Status in Family		
Head	21	70.0
Member	9	30.0
Occupation		
None	1	3.3
Housewife	7	23.4
Government officer	3	10.0
Merchant	8	26.7
Employee	10	33.3
Retired	1	3.3
Sufficiency of Income		
Enough with saving	3	10.0
Enough but no saving	21	70.0
Not enough but no debt	3	10.0
Not enough and debt	3	10.0
Source of health service fees		
Self	1	3.3
Original affiliation	5	16.7
National health insurance	23	76.7
Social insurance	1	3.3

Profile of the illness

The Majority of the cases were cerebral hemorrhages (86.7%). The majority of them had good conscious ness (83.3%). Health problems that most frequently occurred after having disease were paralysis and weakness (53.3%). However, 86.7% of them had no complications during the study. A large number of the subjects (63.3%) had no co-morbidity, while 26.7% had hypertension and 10.0% had diabetic mellitus. And the largest group of subjects, 40.0% were in level 7 which indicated slight chance of recovery, followed by those (20.0%) were in level 6 which indicated slight impairment.

Table 4 Distribution of number and percentage of cerebrovascular disease patients by profile of the illness

Variable	Number	Percentage
Cause of illness		
Cerebral Thrombosis	4	13.3
Cerebral Haemorrage	26	86.7
Conscious ness		
Good consciousness	25	83.4
Confused	4	13.3
Unconsciousness	1	3.3
Communication Problem		
None	22	73.3
Have communication problem	8	26.7
Eating Capability		
Oral diet by self	21	70.0
Oral diet need other help	2	6.7
Oral diet by self & need other's help	3	10.0
NG tube feeding	4	13.3

Table 4 Distribution of number and percentage of cerebrovascular disease patients by profile of the illness (continued)

Variable	Number	Percentage
Urination		
By self	19	63.3
Condom	5	16.7
Foley's catheter	1	3.3
Required disposable diaper	5	16.7
Part of body's weakness		
Left	6	20.0
Right	7	23.3
Both	3	10.0
None	14	46.7
Complication		
None	26	86.7
Pneumonia	4	13.3
Co-morbidity		
No problem	19	63.3
Had Co-morbidity	11	36.7
- Hypertension	8	26.7
- Diabetes Mellitus	3	10.0
The Extended-Glasgow Outcome Scale		
Level 2	1	3.3
Level 3	3	10.0
Level 4	5	16.7
Level 5	3	10.0
Level 6	6	20.0
Level 7	12	40.0

4.2 Characteristics of Family Caregivers of Cerebrovascular Disease Patients

The majority of the family caregivers were females (83.3%). The largest number (70.0%) of the family caregivers aged 45-60 years and followed by those (20.0%) aged 31-45 years. The majority (70.0%) them were married, and 33.3% finished secondary school level and certificate / diploma level. Some finished primary school (23.3%). The largest percentage of family caregivers (33.3%) were employees. The remainders were housewives and merchants (23.3%). Almost half of family caregivers (43.3%) were the patients' daughters or sons. The majority of the family caregivers (66.6%) indicated that they had enough income but had no savings. Most of the subjects (96.7%) had no experience for caring the cerebrovascular disease patients. A half of subjects (50.0%) had secondary caregivers to help them take care of their patients. The majority of these caregivers (90.0%) had no abnormality, while 6.7% of them had hypertension. Nearly half of the subjects (43.3%) had physical symptoms or illness such as headache, backache, abdominal pain, fever or insomnia during caregiving. See Table5.

Table 5 Distribution of number and percentage of family caregivers of cerebrovascular disease patients by characteristic

Characteristic	Number	Percentage
Sex		
Female	25	83.3
Male	5	16.7
Age (years)		
15-30	3	10.0
31-45	21	70.0
46-60	6	20.0

Table 5 Distribution of number and percentage of family caregivers of cerebrovascular disease patients by characteristics (continued)

Characteristics	Number	Percentage
Marital Status		
Single	9	30.0
Married	21	70.0
Education Level		
None	1	3.3
Primary school	7	23.4
Secondary school	10	33.3
Diploma	10	33.3
Bachelor's degree/higher	2	6.7
Relation with patient		
Spouse	12	40.0
Son/Daughter	13	43.4
Parent	1	3.3
Other	4	13.3
Occupation		
None	1	3.3
Housework	7	23.3
Government official	3	10.0
Merchant	7	23.4
Employee	10	33.3
Agriculture	2	6.7
Sufficiency of Income		
Enough with saving	4	13.3
Enough but no saving	20	66.7
Not enough but no debt	3	10.0
Not enough and debt	3	10.0

Table 5 Distribution of number and percentage of family caregivers of cerebrovascular disease patients by characteristic (continued)

Characteristics	Number	Percentage
Experience of caring CVA patient		
None	29	96.7
Have	1	3.3
Abnormality		
No	27	90.0
Yes	3	10.0
- hypertension	2	6.7
- Peptic ulcer	1	3.3
Health status		
Good	15	50.0
Weakness	4	13.3
Weak & have abnormality	6	20.0
Not sure	5	16.7
Secondary caregiver		
No secondary caregiver	7	23.3
Had secondary caregivers	23	76.7
Caregivers' illness during caregiving		
No problems	17	56.7
Had physical symptoms or illness*	13	43.3
- Headache	7	53.8
- Backache	5	38.5
- Abdominal pain	3	23.1
- Fever	5	38.5
- Insomnia	8	61.5
- Other	2	15.4

***** Each Participant reported more than one physical symptom or illness

4.3 The Descriptive Data of the Sampled Subjects

Table 6, presents the numbers and percentage of the sampled subjects by the levels of care-giving ability, self-esteem, and self-efficacy among caregivers at pre-test I and pre-test II. At the pre-test I, the majority of the subjects had a moderate level of care-giving ability (66.7%), self-esteem (70.0%). The (93.3%) self-efficacy (93.3%). Also, at the pre-test II, the majority of the subjects had a moderate level of care-giving ability (70.0%), self-esteem (70.0%) and self-efficacy (93.3%).

Table 6 Number and percentage of family caregivers of cerebrovascular disease patients by level of care-giving ability, self-esteem, and self-efficacy, measured at pre-test I and pretest II.

Variable	Pre-test I		Pre-test II	
	N (total 30)	%	N (total 30)	%
Care-giving ability				
- Moderate level	20	66.7	21	70.0
- High level	10	33.3	9	30.0
Self-esteem				
- Moderate level	21	70.0	21	70.0
- High level	9	30.0	9	30.0
Self-efficacy				
- Moderate level	28	93.3	28	93.3
- High level	2	6.7	2	6.7

Table 7 presents the results of a comparison of self care ability, self-esteem, and self-efficacy of family caregivers before the empowerment program. The paired t-test was used in the analysis. The results revealed that there was no significant differences in care-giving ability, self-esteem, and self-efficacy between pre-test I and pre-test II.

Table 7 Comparison of care-giving ability, self-esteem, and self-efficacy of family caregivers of cerebrovascular disease patients between pre-test I and pre-test II

Variable	Total	$\bar{x}$	SD	t-value	df	p-value
Care-giving ability						
Pre-test I	310	175.4	23.05	1.173	29	.250
Pre-test II	310	175.03	22.63			
Self-esteem						
Pre-test I	40	28.87	2.74	1.361	29	.143
Pre-test II	40	28.76	2.77			
Self-efficacy						
Pre-test I	80	44.20	8.71	.205	29	.839
Pre-test II	80	44.17	8.35			

Table 8 presents the number and percentage of family caregivers that had increased to higher levels of care-giving ability, self-esteem, and self-efficacy after participated the intervention activities.

After the sampled family caregivers participated in the intervention activities, their care-giving ability, self-esteem, and self-efficacy had increased to the high level and none was found at the low care-giving ability, self-esteem, and self-efficacy.

Table 8 Number and percentage of family caregivers of cerebrovascular disease patients by level of care-giving ability, self-esteem, and self-efficacy, at the post-test

Variable	Number	Percentage
Care-giving ability		
High level	29	96.7
Highest level	1	3.3
Self-esteem		
Low level	0	0
Moderate level	0	0
High level	30	100.0
Self-efficacy		
Low level	0	0
Moderate level	0	0
High level	30	100.0

4.4 Findings Related to Research Hypotheses.

Hypotheses I, II and III : The empowerment program would effect the increase of care-giving ability, self-esteem, and self-efficacy among family caregivers of cerebrovascular disease patients.

The family caregivers who participated in the empowerment process intervention increased care-giving ability, self-esteem, and self-efficacy after the intervention, when compared with the scores masured at the pre-test.

Table 9 presents the results of a comparison of self- care ability, self-esteem, and self-efficacy of family caregivers before and after the empowerment process intervention. The paired t-test was used in the analysis. The results revealed that there were significant differences in care-giving ability, self-esteem, and self-efficacy between the pre-test and the post-test.

Comparisons of difference of the mean scores of care-giving ability, before and after the program.

The mean score of care-giving ability was moderate ($\bar{x}$ = 175.4, SD= 23.05) when measured before the program. However, it had increased ($\bar{x}$ = 226.17, SD = 13.91) to the high level when measured after the program. It was found that the mean score of care-giving ability had significantly increased from pre-test ($p<0.001$).

Comparisons of difference of the mean scores of self-esteem before and after the program.

Before the program, the mean score of self-esteem was moderate ($\bar{x}$ = 28.87, SD. = 2.74) compared to the high level when measured after the program ($\bar{x}$ = 35.90, SD. = 1.65). It was found that the post-test mean score was significantly higher than the pre-test mean score ($p<0.001$).

Comparisons of difference of the mean score of self-efficacy before and after the program.

The pre-test mean score of self-efficacy was moderate ($\bar{x}$ = 44.20, SD. = 8.71). It has increased ($\bar{x}$ = 67.27, SD. = 3.96) at to the high level of self-efficacy after the program. It was found that the score of self-efficacy had significantly increased from the moderate to the high level.

Table 9 Comparison of care-giving ability, self-esteem, and self-efficacy of family caregivers of cerebrovascular disease patients between pre-test and post-test.

Variable	Total	$\bar{x}$	SD	t-value	df	p-value
Care-giving ability						
Pre-test	310	175.4	23.05	12.478	29	< .001
Post-test	310	226.17	13.91			
Self-esteem						
Pre-test	40	28.87	2.74	13.831	29	< .001
Post-test	40	35.90	1.65			
Self-efficacy						
Pre-test	80	44.20	8.71	14.344	29	< .001
Post-test	80	67.27	3.96			

CHAPTER V
DISCUSSION

This chapter presents the discussion of the research findings of Chapter IV based on the related theories and literature review.

5.1 Approach and Research Methodology

The purpose of this study was to investigate the effectiveness of the empowerment program on the care-giving ability, self-esteem, and self-efficacy which resulted in changing behavior for care the cerebrovascular disease patients. A quasi-experimental with one group pre-test and post-test design was used. The data were collected through interview and observation. There were 30 representatives of the family caregivers. These subjects had participated in the empowerment program. The statistical analysis to test the hypotheses of the study was done by computing descriptive statistics and Paired t-test.

5.2 Discussion Based on the Findings Related to the Hypotheses were:

Descriptive analysis of data on the care-giving ability, self-esteem, and self-efficacy among family caregivers of cerebrovascular disease patients were categorized into three levels which were high, moderate, and low level. It was found that the subjects scores had increased, to a high level after they participated in the empowerment program. At post-test the mean scores were significantly higher than pre-test.

The discussion was as following :

1. Pre-intervention

The target population of the study were the cerebrovascular disease patients and their family caregivers. Among these 30 cerebrovascular disease patients, there were 21 males (70%) and 9 females (30%) whose age ranged from 23-75 years old. The majority of them (66.6%) were between 46-60 years old, and 83.3% were married. In addition, 33.3% of them were employees, more than half of them (70%) were the heads of the family. These characteristics of the samples were congruent with the previous studies (Jacobs, 1985, as cited in Brown & McCormick, 1988: 12-6; Ngaochin, T. 1999 : 68) which reported that about one-third of these patients could not return to their previous jobs and had to depend on other people financially. The major health problems of the patients in this study were paralysis and weakness of extremities. Having these health problems impeded their opportunities in obtaining their jobs.

As regards to the severity of the cerebrovascular disease of the patients taking part in the present study, the assessment using the Extended Glasgow Outcome Scale revealed that 12 subjects, (40%) were in level 7 or had a good chance of recovery but still needed assistance from a caregiver in performing daily life activity; 6 subjects, (20%) were in level 6 or had upper moderate disability; and 5 subjects, (10%) were in level 5 or had a moderate level of impairment. Such finding clearly suggested that the sampled subjects still need constant care from family caregivers due to the pathological changes that had occurred to them. The patients needed to undergo through a rehabilitation process which, in turn, depended on their pathological condition and age. In the present study, the mean age of the patients were 51.63 years, or middle-age, and 33.3% were older than 60 years of age, the rehabilitation process would take time because people at this age are more likely to have deteriorated restoration system (Suwanno, J. 1997 : 80).

The findings of the study also revealed that from 30 family caregivers, (83.3%) were females and 70% of them were married. In general, the family caregivers were spouses, children, parents, or relatives of the patients. This was congruence with previous studies that most of family caregivers in Thai cultural context were females (Buddhawan, N. 2002: 60; Playpetch, S. 2002: 50;Potaya, S. 2001: 96; Sathirapanya, J. 2001: 116; Chuangsawadesuk, S. 1998: 38; Hirunchunha, S. 1998: 140; Somnarin, O. 1995: 56; Suwanno, J. 1997: 81 ; Tirapaiwong, P. 1997: 64 ; Tosuksri, W. 1996: 41). In Thai society, since most people live in an extended family, so when one family member is sick, it is believed that one member of the family has to take care of that person. In general, female members tend to take the responsibility for providing care for others in the family, while male members are more likely to work for financially support the whole family rather than directly taking care of the sick person (Horowitz, 1985: 612-8; Stoller, 1990: 228-35). According to the Thai tradition, it is the wife's main responsibility to take the best care of the husband both during illness and during healthy (Gasemgitvatana, S, 1993: 86).

2. Post-intervention

2.1 Descriptive analysis data on care-giving ability, self-esteem, and self-efficacy were categorized into three levels which were low level, moderate level, and high level. The study found different stages of measurement as follows:

There were an increased number and percentage of family caregivers who had high level scores at the post-test after the empowerment program (96.7%) for care-giving ability for the cerebrovascular disease patients which was higher than at the pre-test (33.3%)

There were an increased number and percentage of family caregivers who had high level scores for self-esteem at the post-test after the end of intervention (100%) which was higher than at the pre-test (30%).

There were increased number and percentage of family caregivers who had high level scores for self-efficacy at the post-test after the end of intervention (100%) which was higher than at the pre-test (6.7%).

The results of the study were congruent with a study of Chunchot W. (1997:iii) on the effectiveness of an empowerment-training program on development of self-esteem and self-efficacy in nursing students. The results revealed that the experimental group had higher mean scores of self-esteem than the comparison group at the posttest. This was congruent with Purdey (1993: 330), who stated that empowerment contributes to improved self-esteem. It was also consistent with Pensirinapa N. (1995:iv), who studied the effects of empowerment education, and the results showed that there were significantly positive changes in self-esteem in the experimental group which were greater than the comparison group at the 4th week posttest. But the study of Rasmeeloung (1992 : iii-iv) on the effects of a self-help group on self-esteem and self-care agency of head and neck cancer patients receiving radiotherapy, showed the contrary result that there was no significant difference between self-esteem mean scores of the experimental and comparison group.

From the concept of self-efficacy theory, it stated that human behavior was resulted from internal personal factors and environmental factors or interaction among three factors that were: 1) internal personal factors (P) which included beliefs and knowing about oneself, 2) behavioral condition (B) and 3) environmental conditions (E) (Bandura, 1977:191-3). The hypothesis of this theory proposed that if one had expectation or confidence on his own self-efficacy and knowing what to do to achieve the goals expected, he would initiated and hold on the appropriated behaviors to reach the goals. Moreover, Bandura had proposed many sources for forming and developing self-efficacy such as success of one's own self, observing others' experience as a model, motivation, physical and emotional stimuli, suggestion by expert.

In the empowerment program provided in this study, there was model family caregivers who succeeded in caring for the cerebrovascular disease patients joining group discussion to share her experience. Moreover the information about cerebrovascular disease in the empowerment program was disseminated through individual health education and group discussion. These activities helped them understand the nature of the illness, its risk factors and causes and the principles of taking care themselves and the cerebrovascular disease patients.

The result of this study were also congruent with the study of Morisky et al. (1985: 35-50) who had studied the effect of social support from the relatives of hypertensive patients with three-year follow up. The result showed that the group of patients whose relatives were given advised and trained to provide social support had lower blood pressure level and maintained in this level for longer period. Songwattana et al. (1990: 1-19) found that nursing care in which promoted patients' relatives participation under supervision of ward nurses in neurological inpatients caused the relatives to develop better skills and knowledge in caring the patients.

Prasarnathikom (1998: 35) also said that teaching demonstration and supervision for relatives of chronically illness patients could increase efficiency of patient care. Keawkan N. (1985: 76) had studied the motivation of relatives in caring stroke patients found that training relatives to develop skills in taking care stroke patients would increase their efficacy. By taking part in patient care of family caregivers made them gain direct experiences, understanding, knowledge and increase their self-esteem (Hanuchareonkul S., 1993: 162).

2.2 The findings related to the hypotheses were as follows :

2.2.1 The first hypotheses, after intervention, the mean scores of self-care ability for cerebrovascular disease patients among family caregivers who participated in the empowerment process intervention would increase.

The post-test mean scores of self-case ability of family caregivers for cerebrovascular disease patients were significantly higher than of the pre-test (p-value <0.001). This result was supported by the results of the descriptive analysis data on self-care ability for cerebrovascular disease patients which showed the increased number and percentage of the family caregivers at the post-test after the end of empowerment program, from moderate level, to high level more than at the pre-test. This finding was congruent with Wallerstein & Bernstein (1988: 379-94) who stated that "knowledge is gained from collective sharing of experience and understanding the social influences surrounding their lives by using the tool of empowerment process". Gibson (1995: 1208-10) proposed the outcome process of empowerment in mothers of chronically ill children from her research. It the was found that mothers who attained participatory competence had developed sound self-care ability of their child health and were competent in caring.

2.2.2 The second and the third hypotheses, after intervention, was the mean scores of self-esteem and self-efficacy among family caregivers who participated in the empowerment process intervention would be increase.

The post-test mean scores of self-esteem and self-efficacy of the family caregivers of cerebrovascular disease patients after the end of empowerment process intervention were significantly higher than of the pre-test (p-value < 0.001). This results were supported by the results of the descriptive analysis data on self-esteem and self-efficacy which showed the increased number and percentage of family caregivers measured at post-test after the end of empowerment program which had increased from the moderate level to the high level, more than the score measured at the pre-test. This was in accordance with Kieffer (1984: 9-36) who postulated that empowerment is associated with mutual support system, personal competence, personal efficacy, self-sufficiency and self-esteem. Tones (1991: 17-25) also stated that the self-esteem is associated with empowerment, whereby Purdey, et al. (1994: 329-43) stated that "Empowerment contributes to improved self-esteem."

CHAPTER VI
CONCLUSIONS AND RECOMMENDATION

This chapter presents the conclusions of the research and the recommendations derived from the findings.

Conclusion

This study was a quasi-experimental research with one group pre-test, post-test design. The study aimed to evaluate the effectiveness of the empowerment program on increasing care-giving ability, self-esteem, and self-efficacy among family caregivers of cerebrovascular disease patients, in which 30 subjects participated in the empowerment program. The empowerment program had been organized followed Gibson's conceptual model (1995: 1201-10), whereby 4 stages were set up : firstly, discovering reality (stage of participation of individual and exploratoration); second, critical reflection (stage of collaboration and mutual supportive problem solving), third, taking charge (stage of developed organization), and fourth, holding on (stage of commitment). Self-care ability in the study was investigated by using the scale developed by from Denyes & Filday. Self-esteem Scale was developed based on Rosenberge's theory and Self-efficacy scale was developed based on Bandura's theory

The sample of this study was composed of 30 family caregivers purposively selected from the cerebrovascular disease patients who were admitted at 72/4 Neurosurgical Ward, Siriraj Hospital and their family caregivers. The following inclusion criteria were set to select the family care givers : ability to communicate well; and willing ness to participate in the program and to continue to the end of study. Data collection was done by interviewing using two sets of questionnaires developed by the researcher.

The first set of questionnaire was for the cerebrovascular disease patients, composed of three parts: 1) general information 2) patients, illness; and 3) the Expected Outcome Glasgow Coma Scale. The second set of questionnaire was for the family caregivers, composed of four parts: 1) gathered general information; 2) self-care ability of cerebrovascular disease patients; 3) self-esteem; and 4) self-efficacy.

The questionnaire was examined for content validity by five experts. After the questionnaire was revised and corrected following the suggestions of five experts and research abridgement, the questionnaire was tested for reliability. The Cronbach's alpha coefficient was used to assess reliability. The coefficient of the self-care ability part 31 items was 0.72. The coefficient of the self-esteem part (10 items) was 0.80. The coefficient of the self-efficacy part (20 items) was 0.89. The data were collected from the subjects at before and immediately after the end of the program. The data were analyzed by using a statistical and package, descriptive statistics, Paired t-test were used to analyze the data.

General Information

1.1 Characteristics of the samples

There were 30 cerebrovascular disease patients admitted at 72/4 Neurosurgical Ward, Siriraj Hospital. The general characteristics of the subjects were: the majority of the patients were males. The mean age was 51.63 years, with the majority of those being married, with the majority of Buddhists. Most of them finished primary school while some finished secondary school and higher. The status in the family of the subjects was family head. The occupation of the largest number of the subjects were employee and the next largest occupational group had housewives High percentage of the subjects indicated that they had enough income but no savings.

The majority of the family caregivers were females. Mean age was 38.47 years. The majority of them were married, Buddhists and finished primary school. Some had secondary school or higher education. High percentage of the family caregivers were employees and the rests were housewives and merchants. Most of the family caregivers were the patients daughters or sons.

1.2 Descriptive analysis.

The data on care-giving ability, self-esteem, and self-efficacy among family caregivers of cerebrovascular disease patients were categorized into three levels: low, moderate, and high.

At pre-test, the majority of the family caregivers of cerebrovascular disease patients had a moderate level of care-giving ability, self-esteem and self-efficacy.

At the end of the study, their levels of care-giving ability, self-esteem, and self-efficacy were significantly higher than of the pre-test; the majority of the family care givers had a high level of care-giving ability, self-esteem, and self-efficacy.

2. The findings related to the hypotheses

2.1 Pre-test

The majority of the family caregivers had a moderate level of care-giving ability, self-esteem, and self-efficacy.

2.2 Post-test

The family caregivers of cerebrovascular disease patients who had participated in the empowerment program, had significantly higher care-giving ability, self-esteem, and self-efficacy, measured at the end of the program, than of the at pre-test (p-value < 0.001).

Recommendations

1. Recommendations from results of this study

1.1 The empowerment program developed by the researcher by following Gibson's framework can be modified to the modality of ambulatory care of other chronic illnesses, which will be people to increase control over and to improve their health and health promoting behaviors.

1.2 An empowerment program should be included in the routine nursing care program for family caregivers of cerebrovascular disease patients. As it was found from this study that the program could increase family caregivers' care-giving ability, self-efficacy and self-esteem.

1.3 Family caregivers should be promoted to participate participation in caring cerebrovascular disease patients immediately at admission should be encouraged. Since it was found from this study and also many previous studies that early participation in caring patients of their family caregivers would yield positive effects on the patients.

1.4 In the empowerment program organized, there were the model family caregiver who succeeded in caring for the cerebrovascular disease patients joining the group discussion to share experience with others. Moreover, the information about disease was disseminated through the individual health education which helped to them understand the disease and how to take care themselves and their patients. The activities have helped improving their care-giving ability, self-efficacy and self-esteem. Therefore, in the regular clinic nursing practice, should take the family caregivers who succeeded in caring for patients to be the learning models for family caregivers. This will help them have a high self-confidence for caring the patients.

1.5 The program for caregivers should be focused on care-giving ability, self-efficacy and self-esteem. The information should be arranged to serve each family caregiver's need and, be congruent with each cerebrovascular disease patient's problems. Family caregiver's care-giving ability, self-esteem and self-efficacy should also be evaluated periodically, during hospitalization and during their transition from hospital to home.

2. Recommendations for further research

2.1 There was a limitation of the research instruments standard regarding self-care ability, self-esteem, and self-efficacy. Therefore, care-giving ability, self-esteem, and self-efficacy instruments should be tested with advanced methodology, and be improved and modified againto be a standardized instruments for measuring care-giving ability, self-esteem, and self-efficacy of family caregivers of cerebrovascular disease and the other chronically ill patients.

2.2 The study was a quasi-experimental with one group pre-test and post-test design. Which helped to determine the effectiveness of empowerment program in improving care-giving ability, self-efficacy and self-esteem for the family caregivers of cerebrovascular disease patients. But the health outcome of the cerebrovascular patients, to measure also assessed compare the effectiveness of the program. Besides, quasi-experimental, pre-test post-test two-group design aims at evaluating the effectiveness of the empowerment program should be employed for the further study.

2.3 This study should be followed up at the 6^{th} months after the program in order to assess its sustainability.

2.4 Transition condition variables that could directly be related to the cerebrovascular disease patient's health should be investigated in the further studies. These variables include health status and quality of life among the cerebrovascular disease patients.

2.5 The study should be modified to study family caregivers of other chronic diseases by using a model of empowerment.

3. Limitation of this study

Since this study was a quasi-experimental design with one group. And the family caregivers as samples of the study were measured care-giving ability, self-esteem and self-efficacy only one time before providing program for them. Therefore, some extraneous variables might affect the effectiveness of the program. Other designs such as one group time series design might be better.

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APPENDIX A

THE LIST PANEL OF EXPERTS

APPENDIX A
THE LIST PANEL OF EXPERTS

The content of Extended Glasgow Outcome Scale, Denyes & Filday, Self-Esteem Scale, and Self-Efficacy Scale were validity by five experts as below:

Asst.Prof. Arun Nurake
Department of Surgical Nursing
Faculty of Nursing, Mahidol University

Dr. Theerapol Witihiwej
Department of Neurosurgical
Faculty of Medicine, Siriraj, Mahidol University

Dr. Wanpen Pichitpornchai
Department of medical Nursing
Faculty of Nursing, Mahidol University

Dr. Ketsarin Utriyaprasit
Department of Surgical Nursing
Faculty of Nursing, Mahidol University

Mrs. Uraiwan Taeruangruang
Division of Surgical Nursing, Siriraj Hospital
Faculty of Medicine, Siriraj, Mahidol University

APPENDIX B
INFORM CONSENT SHEET

APPENDIX B
INFORM CONSENT SHEET

คำชี้แจงเกี่ยวกับโครงการวิจัย และพิทักษ์สิทธิ์ของผู้มีส่วนร่วมในการศึกษา

ดิฉันชื่อ นางสาวพวงทอง เพชรโทน เป็นนักศึกษาปริญญาโท สาขาวิชาสุขศึกษาและพฤติกรรมศาสตร์ คณะสาธารณสุขศาสตร์ มหาวิทยาลัยมหิดล ขณะนี้กำลังศึกษาเรื่อง “ประสิทธิผลของการสร้างพลังต่อความรู้และความสามารถในการดูแลผู้ป่วยโรคหลอดเลือดสมอง ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแล” ซึ่งเป็นการศึกษาเกี่ยวกับการให้ความรู้ ฝึกทักษะญาติผู้ดูแล และส่งเสริมให้ญาติมีส่วนร่วมในการดูแลผู้ป่วยโรคหลอดเลือดสมองตั้งแต่อยู่ที่โรงพยาบาลโดยประยุกต์ใช้กระบวนการสร้างพลัง เพื่อช่วยให้ญาติผู้ดูแลมีความมั่นใจและสามารถให้การดูแลผู้ป่วยได้อย่างต่อเนื่องที่บ้านได้อย่างมีประสิทธิภาพ

ท่านเป็นญาติผู้ดูแลผู้ป่วยท่านหนึ่งที่ดิฉันคิดว่าจะสามารถเข้าร่วมโครงการวิจัยเรื่องประสิทธิผลของการสร้างพลังต่อความรู้และความสามารถในการดูแลผู้ป่วยโรคหลอดเลือดสมอง ความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแลได้ และถ้าท่านยินดีที่จะเข้าร่วมการศึกษา ดิฉันจะขออนุญาตสอบถามท่านเกี่ยวกับประวัติของผู้ป่วยและท่าน รวมถึงปัญหาในการดูแลผู้ป่วย /ความรู้ความสามารถในการดูแลผู้ป่วย / ความรู้สึกมีคุณค่าในตนเองและความเชื่อในความสามารถของท่านในขณะนี้ จากนั้นท่านและดิฉันจะตกลงร่วมกันในการนัดวัน เวลา ที่จะวางแผนแก้ไขปัญหาและจะดำเนินการตามโครงการอย่างต่อเนื่องจนกระทั่งถึงวันที่ผู้ป่วยกลับบ้าน โดยผู้วิจัยจะประสานงานกับแพทย์และเจ้าหน้าที่ในทีมสุขภาพอื่นๆที่เกี่ยวข้องในการดูแลผู้ป่วย เพื่อร่วมในการวางแผนเตรียมการดูแลผู้ป่วยเมื่อกลับไปอยู่ที่บ้าน และเมื่อท่านพาผู้ป่วยกลับมาพบแพทย์ตามนัดเพื่อติดตามผลการรักษา จะมีการประเมินสภาพร่างกายของผู้ป่วยโดยแพทย์ และให้ท่านตอบแบบสอบถามเกี่ยวกับความรู้ความสามารถในการดูแลผู้ป่วย / ความรู้สึกมีคุณค่าในตนเองและความเชื่อในความสามารถของท่านอีกครั้งหนึ่ง

ดิฉันคาดว่า ผลการศึกษาวิจัยครั้งนี้จะเป็นประโยชน์โดยตรงแก่ตัวท่านและผู้ป่วย โดยสามารถนำไปเป็นแนวทางในการดูแลผู้ป่วย และช่วยฟื้นฟูเพื่อให้ผู้ป่วยสามารถช่วยเหลือตนเองได้มากที่สุด ตามศักยภาพที่หลงเหลือ ตามสภาวะความเจ็บป่วยของตนเอง

หากท่านและผู้ป่วยมีข้อสงสัยใดๆที่เกี่ยวข้องกับการศึกษาครั้งนี้ ดิฉันยินดีที่จะตอบข้อสงสัยให้เข้าใจและไม่ว่าท่านจะเข้าร่วมในการศึกษาครั้งนี้หรือไม่ก็ตาม ผู้ป่วยจะยังคงได้รับการรักษาพยาบาลจากเจ้าหน้าที่ของโรงพยาบาลตามปกติ ถึงแม้ว่าท่านและผู้ป่วยจะได้ตอบรับการศึกษาแล้ว ท่านยังคงมีสิทธิจะยกเลิกการเข้าร่วมการศึกษา หรือยุติการให้สัมภาษณ์ได้ตลอดเวลาตามที่ท่านต้องการ โดยไม่มีผลกระทบใดๆ ต่อการได้รับบริการต่างๆ ตลอดจนการให้การดูแลและการรักษาจากทีมสุขภาพ ถ้าท่านมีข้อสงสัยใดๆ ในระหว่างการเข้าร่วมวิจัย ดิฉันยินดีตอบข้อสงสัยของท่านตลอดเวลา โดยติดต่อมายังหมายเลขโทรศัพท์ 01-6199412

ขอขอบคุณในความร่วมมือ

นางสาวพวงทอง เพชรโทน

แบบฟอร์มใบยินยอมให้ทำการวิจัย

โดยได้รับการบอกกล่าวและเต็มใจ (Informed Consent Form)

การวิจัยเรื่อง ประสิทธิผลของการสร้างพลังต่อความรู้และความสามารถในการดูแลผู้ป่วยโรคหลอดเลือดสมองความเชื่อในความสามารถตนเองและความรู้สึกมีคุณค่าในตนเองของญาติผู้ดูแล

วันให้คำยินยอม วันที่..... เดือน ..... พ.ศ. .....

ก่อนที่จะลงนามในใบยินยอมให้ทำการวิจัยนี้ ข้าพเจ้าได้รับคำอธิบายจากผู้วิจัยถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัย อันตราย หรืออาการที่อาจเกิดขึ้นจากการวิจัยหรือจากยาที่ใช้ รวมทั้งประโยชน์ที่จะเกิดขึ้นจากการวิจัยอย่างละเอียด และมีความเข้าใจดีแล้ว

ผู้วิจัยรับรองว่าจะตอบคำถามต่างๆ ที่ข้าพเจ้าสงสัยด้วยความเต็มใจ ไม่ปิดบัง ซ่อนเร้น จนข้าพเจ้าพอใจ

ข้าพเจ้ามีสิทธิที่จะบอกเลิกการเข้าร่วมในโครงการนี้เมื่อใดก็ได้ และเข้าร่วมโครงการวิจัยนี้โดยสมัครใจและการบอกเลิกการเข้าร่วมการวิจัยนี้ จะไม่มีผลต่อการรักษาโรคที่ข้าพเจ้าพึงจะได้รับต่อไป

ผู้วิจัยรับรองว่าจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับและจะเปิดเผยได้เฉพาะในรูปที่เป็นผลสรุปการวิจัย การเปิดเผยข้อมูลเกี่ยวกับตัวข้าพเจ้าต่อหน่วยงานต่างๆ ที่เกี่ยวข้อง กระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ผู้วิจัยรับรองว่าหากเกิดอันตรายใดๆ อันเนื่องจากการวิจัยดังกล่าว ข้าพเจ้าจะได้รับการรักษาพยาบาลโดยไม่คิดมูลค่าตามมาตรฐานวิชาชีพ และจะได้รับการชดเชยรายได้ที่สูญเสียไประหว่างการรักษาพยาบาลดังกล่าว ตลอดจนเงินทดแทนความพิการที่อาจเกิดขึ้น

ผู้วิจัยรับรองว่าหากมีข้อมูลเพิ่มเติมที่ส่งผลต่อการวิจัย ข้าพเจ้าจะได้รับการแจ้งให้ทราบโดยไม่ปิดบัง ซ่อนเร้น

ข้าพเจ้าได้อ่านข้อความข้างต้นแล้ว และมีความเข้าใจดีทุกประการ และได้ลงนามในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม ..... ผู้ยินยอม

ลงนาม ..... พยาน

ลงนาม ..... พยาน

ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยไม่สามารถอ่านและเขียนหนังสือได้ จะต้องขณะที่ยังมีสติสัมปชัญญะ และระบุข้อความไว้ตามได้รับการยินยอมในนี้ ข้าพเจ้าไม่สามารถอ่านหนังสือได้ แต่ผู้วิจัยได้อ่านข้อความในใบยินยอมนี้ให้แก่ข้าพเจ้าฟังจนเข้าใจดีแล้ว ข้าพเจ้าจึงลงนาม หรือประทับลายนิ้วมือหัวแม่มือของข้าพเจ้าในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม ..... ผู้ยินยอม
(หรือประทับลายนิ้วแม่มือ)
ลงนาม ..... พยาน
ลงนาม ..... พยาน

ในกรณีที่ผู้ยินยอมตนได้ทำการวิจัยยังไม่บรรลุนิติภาวะ จะต้องได้รับการยินยอมจากผู้ปกครองหรือผู้อุปการะโดยชอบด้วยกฎหมาย

ลงนาม ..... ผู้ปกครอง/ผู้อุปการะ
โดยชอบด้วยกฎหมาย
ลงนาม ..... พยาน
ลงนาม ..... พยาน

ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยไม่สามารถตัดสินใจได้เอง (เช่น ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยอยู่ในภาวะหมดสติ) ให้ผู้แทนโดยชอบด้วยกฎหมาย หรือผู้ปกครอง หรือญาติที่ใกล้ชิดที่สุดเป็นผู้ลงนามยินยอม

ลงนาม ..... ผู้แทน/ผู้ปกครอง/ญาติ
ลงนาม ..... พยาน
ลงนาม ..... พยาน

APPENDIX C

QUESTIONNAIRE OF CEREBROVASCULAR DISEASE PATIENT

APPENDIX C

QUESTIONNAIRE OF CEREBROVASCULAR DISEASE PATIENT

ID.No ……

Date ……..

Name …….. Surname ……..

Address ……
…… Tel. ……..

H.N. ……. Date of admit …….

Date of discharge …….. Date for F/U ……..……...

Part I Personal Information

Please fill in the provide space or mark X in front of answers in the questionnaires according to answers of interviewee.

Data of Socio-demographic & Socio-economical

1. Sex ( ) 1.Male ( ) 2. Female

2. Age …….. years old

3. Nation. ( ) 1.Thai ( ) 2. China ( ) 3. Other ……..

4. Religion ( ) 1. Buddhist ( ) 2. Chris ( ) 3. Islam ( ) 4. Other……

5. Marital status

( ) 1. Single ( ) 2. Married ( ) 3. Widow ( ) 4. Divorce ( ) 5. Separate

6. Family status

( ) 1. Leader ( ) 2. Member ( ) 3. Liver ( ) 4. Other

7. Education level

( ) 1. None ( ) 2. Primary school

( ) 2. Secondary school ( ) 4. Diploma

( ) 5. Bachelor's degree ( ) 6. Higher than Bachelor's degree

( ) 7. Other ……

8. Occupation

( ) 1. None ( ) 2. Government official

( ) 3. Government official ( ) 4. Merchant

( ) 5. Wage employee ( ) 6. Agriculture

( ) 7. Housewife ( ) 8. Other……..

9. Sufficiency of family income.

( ) 1. Enough with some saving ( ) 2. Enough with no saving

( ) 3. Not enough but no debt ( ) 4. Not enough and have debt

10. How you pay for your medical care.

( ) 1. Own responsibility ( ) 2. Government

( ) 3. Health insurance ( ) 4. Social welfare card

( ) 5. Other ……..

Data of illness

11. Diagnosis …….

12. Concious level

( ) 1. Unconcious ( ) 2. Confuse ( ) 3. Alert

13. Communication

( ) 1. Speak. …… normal …….. slow&clear ……slow&not clear

14. Health status

( ) 1. Side of hemiplegia

( ) 1. Right ( ) 2. Left ( ) 3. Both

( ) 2. Taken food

( ) 1. Oral diet …….can eat by yourself ……. Support by other ……. both

( ) 3.

( ) 1. Yourself ( ) 2. Foley's cath

( ) 3. Condom ( ) 4. With Plastic bag

15. Complication

( ) 1. No ( ) 2. Yes ……..

16. Mobility with your illness

( ) 1. Diabetes Mellitus ( ) 2. Hypertension

( ) 3. Heart disease ( ) 4. Other …….

Part II Extended Glasgow Outcome Scale

Please mark X in front of answers in the questionnaires according to answers of interviewee.

Level	Extended Glasgow Outcome Scale	
1 □	There is a very high chance of mortality.	The Glasgow Coma Scale results were only 3 or 4 since the very beginning.
2 □	The patient was in the vegetation state.	He or she could not could help him/herself and did not have mindful responses.
3 □	The patient had the highest degree of impairment.	He or she needed constant care from others in performing all or almost all daily life activities.
4 □	The patient had very high degree of impairment.	He or she needed care from others in performing a number of daily life activities.
5 □	The patient had a moderate level of impairment	He or she could take care of him/herself when at home; care was required from others when the patient was outside the house.
…… …… ……. ……. …….	…… …… …… …… …….	…… …… …… ……
8 □	The patient had a very good chance of recovery.	He or she was very like to life a normal life, being able to take care of him/herself and to go back to work.

For researcher □

QUESTIONNAIRE OF FAMILY CAREGIVER OF CEREBROVASCULAR DISEASE PETIENT

Part I Data of socio-demographic & socio-economical

Please fill in the provide space or mark X in front of answers in the questionnaires according to answers of interviewee.

1. Sex ( ) 1.Male ( ) 2. Female

2. Age …….. years old

3. Nation. ( ) 1.Thai ( ) 2. China ( ) 3. Other ……..

4. Religion ( ) 1. Buddhist ( ) 2. Chris ( ) 3. Islam ( ) 4. Other……

5. Marital status

( ) 1. Single ( ) 2. Married ( ) 3. Widow ( ) 4. Divorce ( ) 5. Separate

6. Relationship with patient

( ) 1. Husband ( ) 2. Wife ( ) 3. Son/Daughter

( ) 4. Father ( ) 5. Mother ( ) 6. Other

7. Education level

( ) 1. None ( ) 2. Primary school

( ) 2. Secondary school ( ) 4. Diploma

( ) 5. Bachelor’s degree ( ) 6. Higher than Bachelor’s degree

( ) 7. Other ……

8. Occupation

( ) 1. None ( ) 2. Government official
( ) 3. Government official ( ) 4. Merchant
( ) 5. Wage employee ( ) 6. Agriculture
( ) 7. Housewife ( ) 8. Other……..

9. Sufficiency of family income.

( ) 1. Enough with some saving ( ) 2. Enough with no saving
( ) 3. Not enough but no debt ( ) 4. Not enough and have debt

10. Experience for care the cerebrovascular disease patient

( ) 1. Never ( ) 2. Ever

11. Do you have mobility

( ) 1. No ( ) 2. Yes ……..

12. Perceive your health status

( ) 1. Strong ( ) 2. Weakness ( ) 3. Not sure

13. Who have responsibility for care the patient

( ) 1. Only you ( ) 2. Have the other for help …….

14. What the problem do you have for care the cerebrovascular disease patient ?

……

……

…….

Part II Denyes & Filday Dependent-Care Agency Instrument

Please mark ❍ in number in the questionnaires according to answers of interviewee.

0	mean	unknown, not understanding, no experience
>0 and < 10	mean	known, understanding, capability in providing care for dependent
10	mean	highest caregiving capability

For Subject	**For Researcher**
I know the effect of cerebrovascular disease to body and function organ of the patient. 0 1 2 3 4 5 6 7 8 9 10 Lowest Most	□
I know kind and amount of food that Appropriate for the patient. 0 1 2 3 4 5 6 7 8 9 10 Lowest Most	□
I know …… …….. …….. ……..	
How long of your decision for health among The patient. 0 1 2 3 4 5 6 7 8 9 10 Lowest Most	□

Part III self-esteem Scale

Explanation: Explain to the interviewee that the following questions measure feelings, opinion or attitudes towards self-esteem among family caregivers of cerebrovascular disease patients. There is no right or wrong answer, and they are requested to answer truthfully. There are answers that they may choose to answer according to the weight of feelings as follows:

Strongly agree means the question corresponds most with your feeling.
Agree means the question corresponds a lot with your feeling.
Disagree means the question corresponds a little with your feeling.
Strongly disagree means the question corresponds least with your feeling.

The interviewer marks X in the box that the interviewee answered according to his feeling.

Item	Levels of opinions			
	Strongly agree	Agree	Disagree	Strongly disagree
1. I feel that I am a person of worth, at least on an equal plane with others.				
2. I thinks I am useful to my family				
3. All in all, I am inclined to feel that I am a failure.				
4. I am able to do things as well as most other people.				
5. I feel I do not have much to be proud of myself.				
6 . …… ……				
10. At time I think I am no good at all.				

Part IV Self-Efficacy Scale

Explanation: Explain to the interviewee that the following questions measure feelings, opinion or attitudes towards self-efficacy among family caregivers of cerebrovascular disease patients. There is no right or wrong answer, and they are requested to answer truthfully. There are answers that they may choose to answer according to the weight of feelings as follows:

Very confident means the question corresponds most with your convinced.
Sort of confident means the question corresponds a lot with your convinced.
In between confident means the question some what corresponds with your convinced.
Not very confident means the question corresponds a little with your convinced.
Not at all confident means the question corresponds least with your convinced.

The interviewer marks X in the box that the interviewee answered according to his feeling.

Item	Levels of opinions				
	Very confident	Sort of confident	In between confident	Not very confident	Not at all confident
1. I can promote the patient's recovery.					
2. I can provide appropriate meal for patient.					
3. I have enough time to take care the patient.					
4.…… ……					
5. I am able to let the patient depend on me.					

APPENDIX D

Item Descriptive of Variables

APPENDIX D : Item Descriptive of Variables

Part 1 Care-giving ability measuring questionnaires

Item analysis of care-giving ability score at pre-test

No.	Question	Pre-test		Post-test	
		$\bar{X}$ (total = 10)	SD	$\bar{X}$ (total = 10)	SD
1.	Knowledge of disease.	5.37	1.19	7.53	0.90
2.	Knowledge of food.	6.07	1.31	7.57	0.77
3.	Knowledge of exercise.	5.57	1.10	6.80	0.92
4.	Knowledge of rest.	5.47	1.17	6.83	0.79
5.	Knowledge of stress.	5.63	1.19	6.90	0.96
6.	Knowledge of psychology.	5.83	1.29	7.37	0.72
7.	Attention sex behavior.	5.37	1.85	7.03	0.89
8.	Attention of feeling.	5.17	1.18	7.07	0.94
9.	Know patient' s feeling.	5.93	1.05	7.00	0.79
10.	Tell about patient's feeling now.	5.53	1.46	7.10	0.99
11.	Knowledge of caring.	5.87	1.01	6.73	0.91
12.	Good decision making.	6.13	1.20	7.47	1.25
13.	Knowledge of health status.	6.27	1.36	7.43	0.90

No.	Question	Pre-test		Post-test	
		$\bar{X}$ (total = 10)	SD	$\bar{X}$ (total = 10)	SD
14.	Knowledge of health status Changing.	5.77	1.57	7.37	0.72
15.	How often feeling about health.	5.50	1.25	7.27	1.36
16.	How information of disease.	4.47	2.34	6.87	1.28
17.	Feel tire for care.	5.07	1.62	6.80	1.06
18.	Sastisficate of health.	5.23	1.30	6.80	1.03
19.	Not sure to care.	4.30	1.68	6.43	1.14
20.	Proud for care.	5.13	1.74	6.93	1.01
21.	Proud of shape & face.	5.03	1.99	6.83	1.09
22.	Attention of complication.	6.37	1.16	7.37	1.00
23.	Think about more sickness.	3.80	2.07	6.40	1.00
24.	Support from friends.	6.53	1.31	7.73	1.01
25.	Psycho-social support from	6.07	1.34	7.40	1.00
26.	family.	5.97	2.03	7.73	1.17
	Ask for health from other.				
27.	Have psycho problems for caring the patients.	6.60	1.50	7.57	1.30
28.	Not good care because Family.	6.07	1.68	8.17	1.12
29.	Good feeling for the patients.	6.30	1.76	9.00	1.05
30.	Happy for caring.	7.00	1.80	8.93	1.31
31.	Use time for health decision.	6.00	1.34	7.73	0.91

Part 2 Self-esteem Measuring Questionnaires

Item analysis of self-esteem score at pre-test

No	Question	Level of opinion				$\bar{X}$	SD
		Strongly agree	Agree	Dis agree	Strongly disagree		
1.	I feel that I am a person of worth, at least on an equal plane with other.	10	70	20	0	2.9	.55
2.	I think I am useful to my family.	13.3	63.4	23.3	0	2.9	.61
3.	All in all, I am inclined to feel that I am a failure.	0	10	70	20	3.1	.55
4.	I am able to do things as well as most other people.	3.3	50	46.7	0	2.57	.57
5.	I feel I do not have much to be proud of myself.	0	23.3	66.7	10	2.87	.57
6.	I take a positive attitude toward myself.	13.3	53.4	33.3	0	2.8	.66
7.	On the whole, I am satisfied with myself.	16.6	46.7	36.7	0	2.8	.71
8.	I wish I could have more respect for myself.	0	36.7	50	13.3	2.77	.68
9.	I certain feel useless at times.	0	13.3	60	26.7	3.13	.63
10.	At time I think I am no good at all.	0	13.3	70	16.7	3.03	.56

Item analysis of self-esteem score at post-test

No	Question	Level of opinion				$\bar{X}$	SD
		Strongly agree	Agree	Dis agree	Strongly disagree		
1.	I feel that I am a person of worth, at least on an equal plane with other.	56.7	43.3	0	0	3.57	.50
2.	I think I am useful to my family.	50	50	0	0	3.50	.51
3.	All in all, I am inclined to feel that I am a failure.	0	0	26.7	73.3	3.73	.45
4.	I am able to do things as well as most other people.	36.7	63.3	0	0	3.37	.49
5.	I feel I do not have much to be proud of myself.	0	0	46.7	53.3	3.53	.51
6.	I take a positive attitude toward myself.	63.3	36.7	0	0	3.63	.49
7.	On the whole, I am satisfied with myself.	50	50	0	0	3.50	.51
8.	I wish I could have more respect for myself.	0	0	26.7	73.3	3.73	.45
9.	I certain feel useless at times.	0	0	26.7	73.3	3.73	.45
10.	At time I think I am no good at all.	0	0	40	60	3.60	.50

Part 3 Self-efficacy Measuring Questionnaires

Item analysis of self-efficacy score at pre-test

No	Question	Level of opinion					$\bar{X}$	SD
		Very confident	Sort of confident	In between confident	Not very confident	Not at all confident		
1.	I can promote the patient's recovery.	6.7	33.3	53.3	6.7	0	2.40	.72
2.	I can provide appropriate meal for patient.	0	26.7	53.3	20	0	2.07	.69
3.	I have enough time to take care the patient.	3.3	33.3	43.3	20	0	2.20	.81
4.	I think that I can encourage the patient.	6.7	50	30	13.3	0	2.50	.82
5.	I think that I can support the patient for the expense in medical care indefinitely.	6.7	30	43.3	10	10	2.13	1.04
6.	I am patient enough to take care the patient.	6.7	30	46.7	16.7	0	2.27	.83
7.	I am not tired with the physical defect of the patient.	3.3	33.3	50	10	3.3	2.23	.82
8.	I think that I can deal with the problems/obstacles happen to the patient.	10	13.3	53.3	16.7	6.7	2.03	1.00
9.	I am not tired to find knowledge about he illness and appropriate behaviors.	3.3	23.3	50	23.3	0	2.07	.78
10.	I dare to ask the doctor about the illness.	6.7	40	36.7	13.3	3.3	2.33	.92
11.	I dare to ask the nurse about the illness.	0	50	30	20	0	2.30	79
12.	I am sure that I will not be annoyed what the patient complaints.	0	33.3	36.7	20	10	1.93	.98
13.	I can maintain my role property.							
14.	I can help the patient to do exercise and physical rehabilitation.	0	16.7	60	23.3	0	1.93	.64
15.	I am able to provide essential factors for patient's life.	3.3	36.7	50	10	0	2.33	.71
16.	I can spend the time to take care the patient effectiveness.	0	20	60	20	0	2.00	.64
17.	I am strong enough for support the patient.	3.3	36.7	50	6.7	3.3	2.30	.79
18.	I am still recognized by the patients.	3.3	36.7	46.7	10	3.3	2.27	.83
19.	I am able to let the patient depend on me.	13.3	23.3	50	10	3.3	2.33	.96
20.	I have my definite aim of my life.	0	33.3	50	16.7	0	2.17	.70
		6.7	36.7	50	3.3	3.3	2.40	.81

Item analysis of self-efficacy score at post-test

No	Question	Level of opinion					$\bar{X}$	SD
		Very confident	Sort of confident	In between confident	Not very confident	Not at all confident		
1.	I can promote the patient's recovery.	50	50	0	0	0	3.50	.51
2.	I can provide appropriate meal for patient.	36.7	63.3	0	0	0	3.37	.49
3.	I have enough time to take care the patient.	43.3	56.7	0	0	0	3.43	.50
4.	I think that I can encourage the patient.							
5.	I think that I can support the patient for	46.7	50	3.3	0	0	3.43	.57
	the expense in medical care indefinitely.	43.3	56.7	0	0	0	3.43	.50
6.	I am patient enough to take care the patient.	43.3	53.3	3.3	0	0	3.40	.56
7.	I am not tired with the physical defect of the patient.	40	56.7	3.3	0	0	3.37	.56
8.	I think that I can deal with the Problems / obstacles happen to the patient.	53.3	43.3	3.3	0	0	3.50	.57
9.	I am not tired to find knowledge about he illness and appropriate behaviors.	33.3	66.7	0	0	0	3.33	.48
10.	I dare to ask the doctor about the illness.	30	70	0	0	0	3.30	.47
11.	I dare to ask the nurse about the illness.	26.7	73.3	0	0	0	3.27	.45
12.	I am sure that I will not be annoyed what the patient complaints.	23.3	76.7	0	0	0	3.23	.43
13.	I can maintain my role property.	40	56.7	3.3	0	0	3.37	.56
14.	I can help the patient to do exercise and physical rehabilitation.	26.7	73.3	0	0	0	3.27	.45
15.	I am able to provide essential factors for patient's life.	23.3	70	6.7	0	0	317	.53
16.	I can spend the time to take care the patient effectiveness.	30	63.3	6.7	0	0	3.23	.57
17.	I am strong enough for support the patient.	33.3	66.7	0	0	0	3.33	.48
18.	I am still recognized by the patients.	50	50	0	0	0	3.50	.51
19.	I am able to let the patient depend on me.	50	50	0	0	0	3.50	.51
20.	I have my definite aim of my life.	36.7	60	3.3	0	0	3.33	.55

No. 61/2003

Documentary Proof of Ethical Clearance

The Committee on Human Rights Related to

Human Experimentation

Mahidol University, Bangkok

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Title of Project : The Effectiveness of Empowerment on Knowledge and Dependent Care Agency of Cerebrovascular Disease Patients Self Efficacy and Self Esteem among Family Caregivers

Principal Investigator : Miss Puangtong Petchtone

Name of Institution : Faculty of Public Health

Approved by the Committee on Human Rights Related to Human Experimentation

Signature of Chairman : _____

(Professor Dr. Srisin Khusmith)

Signature of Head of Institute : _____

(Professor Dr. Pornchai Matangkasombut)

Date of Approval : 5 MAR 2003

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