CHAPTER 1

INTRODUCTION

The world Health Organization (WHO) has defined stroke as s condition with ‘ rapidly developing clinical signs of focal loss of cerebral function, with symptoms lasting more than 24 hours or leading to death, with no apparent cause other than that of vascular origin (World Health Organization, 1989). The main mechanism is ischemic stroke, the result of thrombus, embolism, or conditions that produce low systemic perfusion pressures. The most common site for lesions to occur is at the middle cerebral artery (Guberman, 1994).

Stroke, with its attendant major mortality and morbidity rates, is a significant healthcare problem in many countries. It is one the public health concerns throughout the world (Shah, 2006). In Thailand, Public Health Statistics show that stroke has been on the increase (Granger & Hamilton, 1993). A great majority of stroke patients in rehabilitation improve in function (Viriyavejakul, 1990), but the improvement is quite variable from one patient to the other (Johnston, Kirshblum, Zorawitz, & Walker, 1993). Approximately, 80% of stroke patients survive the acute phase. Although some patients regain their walking ability, 30% to 66% of the survivors are no longer able to use the affected arm (Kwakkel, Kollen, & Wagenaar, 1999). Stroke disability may persist for life and limit independence and quality of life, even in those deemed recovered on the basis of independence in self-care (Duncan, Samsa, Weinberger, Goldstein, & Bonito, 1997).

While most motor and functional recovery usually occurs in the first 3 months after stroke (Brandstater, 1990), the duration of acute rehabilitation hospital stay for stroke patients have decreased so that recovery is often not complete at discharge (Dam, Tonin, & Casson, 1993). The consequences after discharge are not only persistent neurological impairment, but also lifetime disability. This may need rehabilitation program to maximize patients’ function to overcome their disability.

Several studies have been conducted to examine the rehabilitation in stroke patients but the results have been inconsistent. Previous studies have documented that patients usually have significant residual physical disability, functional impairment and reduced quality of life (Anderson, et al., 2000; Fey, De Weerdt, & Selz, 1998; Studenski, Duncan, Perera, Reker, & Lai, 2005). One study has shown that the motor function gradually returns as the result of only spontaneous recovery. In Duncan et al, 1998 (Duncan, Richards, Wallace, Stoker-Yates, & Pohl, 1998) reported no difference in Barthel Index score. Therefore, the stroke rehabilitation programs may not improve outcomes (Dobkin, 1989). Several authors (Studenski, et al., 2005; Young & Forster, 1993) suggested that home rehabilitation is more effective and cheaper. Rehabilitation begun early in the acute stage optimizes the patient's potential for functional recovery. Early mobilization prevents or minimizes the harmful effects of deconditioning and the potential for secondary impairments. Recovery from stroke and learning is based on the brain's capacity for reorganization and adaptation. An effective rehabilitation plan capitalizes on this potential and encourages functional use of the involved segments. Activities are selected that are meaningful and important to the patient. Optimal motor learning can be ensured through attention to a number of factors, most importantly, strategy development, feedback, and practice. Rehabilitation can begin as soon as the patients are medically stabilized, typically within 72 hours. Patients may be admitted to a specific stroke unit or neurological unit with rehabilitation services. Evidence supports the benefits of such services in significantly improving functional outcomes when compared to patients not receiving those services (Heyes & Corroll, 1986; Langhorne, 1993; Studenski, et al., 2005; Young & Forster, 1993).

In most developed countries, there is a heavy reliance on hospitals for the acute care, whereas the home rehabilitation of patients with stroke is limited (Anderson, Jamrozik, & Stewart-Wynne, 1994; Young, 1994). Because inpatient rehabilitation in Thailand is not widely available, the demand for home rehabilitation model is increasing. Therefore, the model for effective home rehabilitation for stroke will help improving stroke care and may be applied to other countries. To date, there

is no randomized controlled trial study in assessing effectiveness of home rehabilitation program for ischemic stroke.

Therefore, we would like to evaluate the effectiveness of home rehabilitation program for ischemic stroke. We postulated that the program would be able to improve activity daily living (ADL), reduce disability and increase quality of life of stroke patients.