

# CHAPTER I



## BACKGROUND AND SIGNIFICANCE

### 1.1 Problem of Epilepsy Care

#### 1.1.1 In General

There have been few published studies about the problems of epilepsy care. One of the problems is non-compliance by epileptics. Many epileptics do not comply with instructions, return for clinic visits on schedule, follow lifestyle modifications or take their drugs as recommended (Garnett, 2000). The rate of non-compliance in epileptics was 28% in the study by Buck, et al. (1997). The reasons for non-compliance are, for example, memory problems, misunderstanding instructions, and experiencing side effects (Garnett, 2000). Another problem for care, particularly in areas where there are no neurologists, is inappropriate dosage and the selection of antiepileptic drugs (AEDs) (Garnett, 2000). The study of Gomes (2000) demonstrated that 93.7% of local general practitioners (GPs) and pediatricians were not familiar with the varieties of AED, their specific uses and side effects.

#### 1.1.2 In Thailand

There are very few neurologists distributed throughout the nation of Thailand. For example, in 19 provinces of northeastern Thailand, there are only about 10 neurologists. Most patients with epilepsy nationwide are therefore under GP care, particularly in community hospitals (CHs) (Towanabut, S. report, 2001). In addition, the facilities for epilepsy management, such as electroencephalography, blood level

analysis for AEDs, are available in only half of regional hospitals, 10% of general hospitals and no CHs. Moreover, conventional AEDs, such as carbamazepine, are available in only regional and general hospitals, and in some CHs. Valproic acid is available in only 8% of CHs (Towanabut, S. report, 2001). Therefore, most GPs in country hospitals have limitations in managing the epileptic patient.

### **1.1.3 In Nakhon Ratchasima Province**

At the CHs, there are a number of GPs, nurses, and other health care personnel. A few large CHs may also have pediatricians and/or internists. Among CHs, there are differences with regard to providing epilepsy treatment; in some hospitals, the health care providers do give relevant knowledge and suggestions to their patients, while others do not. Some physicians gather and use patient information to provide optimal care for the specific case, but some do not. In addition, some physicians are particularly interested in epilepsy treatment; therefore, they learn by themselves how to deal with their patients and accordingly provide good quality care. This is generally not the case, however.

Another problem of the current healthcare system is the process of making an appointment with patients. To make an appointment, there is an appointment card on which OPD nurses write the appointment date. Normally, the interval for the next follow-up is one to three months later. The card is too small and easy to lose and patients may thus forget the appointment date. There is no system to remind patients of the upcoming appointment date.

The study by Asawavichienjinda and colleagues (2003) showed a low rate (56.9%) of compliance among adult epileptics taking AED, and keeping appointments. The major reasons for non-compliance were lack of knowledge about the need for long-term treatment, and forgetfulness. Other problems were a lack of knowledge among GPs about epilepsy management, awareness of drug effects, and selection and modification of AEDs, for example (Asawavichienjinda, T., report, 2001). These problems lead to the low rate (33.7%) of epileptics seizure-free for at least two years.

## **1.2 Strategy to Improve Care**

Up to now, there have been two programs in Nakhon Ratchasima Province to improve care for patients with chronic disease, the Home Health Care Program and the Diabetic Club. The first involves giving general care and educating disabled patients at home, which can only help improve patients' knowledge about the disease and appropriate lifestyle, but does not affect the care provided by GPs. The Diabetic Club is similar to the Home Health Care Program, in that it only helps improve the ability of patients with diabetes to take care of themselves, but not the care provided by GPs (Information from Educational Department, Maharat Nakhon Ratchasima Province, Thailand, n.p., n.d.).

### **1.2.1 Shared Care**

Shared care (SC) is a health care scheme that aims at continuity of care for chronic diseases through a systematic approach, which includes coordination, collaboration, communication, and cooperation among patients, primary health care teams and specialists (McGhee & Hedley, 1996). There have been studies of shared care with chronic diseases, such as diabetes, hypertension, and depression (Griffin, 1998; Llewellyn-Jones et al. 1999; McGhee et al. 1994), which showed that SC improved patient compliance, GP care, and hence medical outcomes.

Because of the aforementioned defects of the current healthcare system, SC would be useful in improving patient compliance, and the knowledge of GPs in the current healthcare system. Therefore, SC was implemented in the CHs, to improve care for patients with epilepsy.

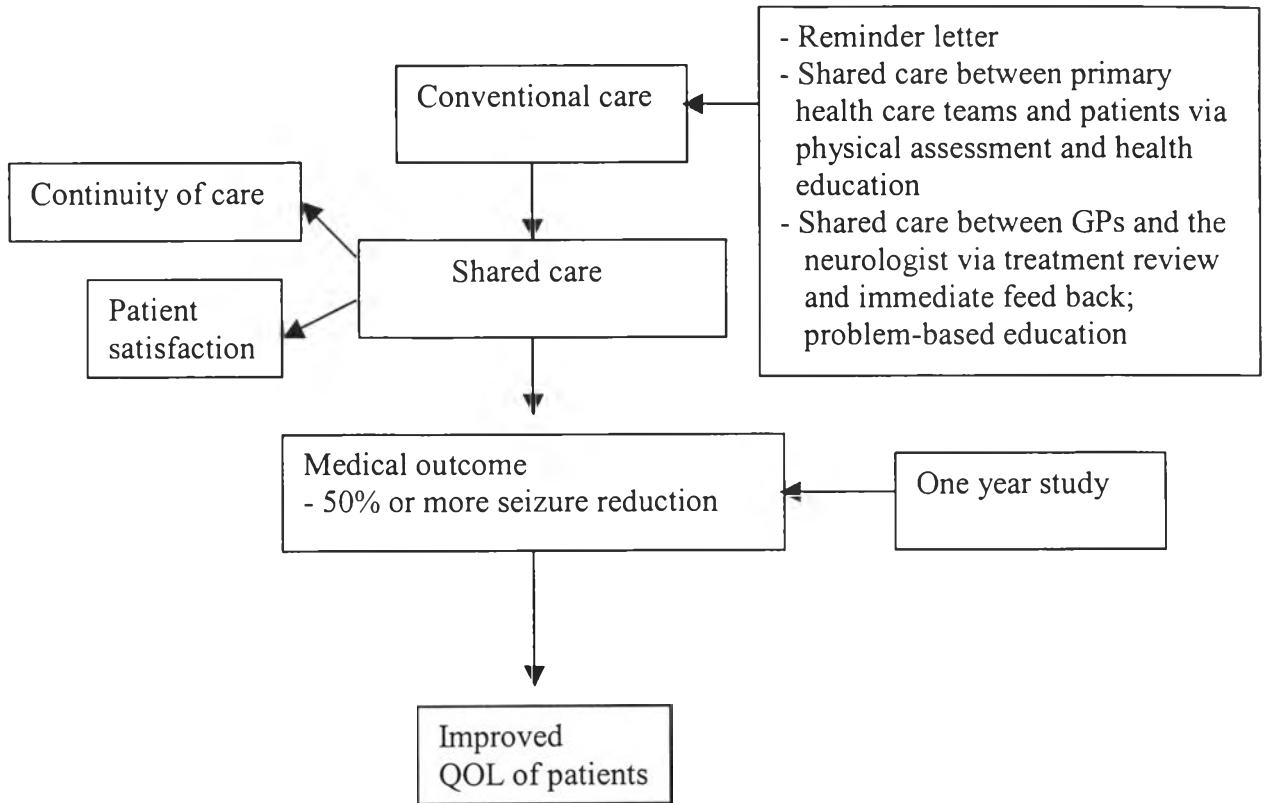
## **1.3 Selection of Research Design**

A randomized controlled trial (RCT) was selected for this study because it was conducted on human beings (epileptics) to compare the outcomes of two different interventions. Samples were divided into 2 groups, a conventional care (CC) (control) group, and a shared care (experimental) group. Systematic error was avoided by using a randomization technique to split samples into two comparable groups. The control group was treated the same in all ways, except that its members were not exposed to the intervention (Fletcher, R.H., Fletcher, S.W., and Wagner, 1996).

## 1.4 Conceptual Framework

To assess the effectiveness of SC for patients with epilepsy for this study, the medical outcomes from the hospital's perspective were evaluated with respect to regularity in attending follow-up visits (according to the objective of SC). This was the primary expected outcome. If the epileptics had regular follow-up they should have had good medical outcomes in terms of seizure reduction and better quality of life. Consequently, the patients would be satisfied with the SC scheme. Because of the systematic approach of SC, GPs at CHs would improve their relevant practices (figure 1.1). This study was conducted for one year because most GPs at CHs usually moved to other hospitals at the end of April, and new GPs would replace the vacant positions. This phenomenon would interfere with the study, particularly in hospitals receiving SC.

Figure 1.1: Conceptual framework for outcome measurement



## **1.5 Research Hypotheses**

There were seven hypotheses in this study.

1. There was a higher proportion of epileptics with regular follow-up who received SC than those receiving CC.

2. When pre- and post-study were compared, there was a higher proportion of epileptics with regular follow-up who received SC or CC, within each group.

3. There was a better rate of epileptics with regular follow-up who received SC than those receiving CC.

4. There was a higher proportion of epileptics with seizure reduction (comparing three months after and three months before the study) for those receiving SC, than those receiving CC.

5. There was a higher mean total score and mean score for each domain in Quality of Life in Epilepsy-31 (QOLIE-31) and Short Form 36 Health Survey (SF-36) of epileptics who received SC, than those receiving CC.

6. There was a higher proportion of epileptics satisfied with the service among those receiving SC, than those receiving CC.

7. There was a lower proportion of inappropriate practices of GPs, comparing the last three months with the first three months of the study, for epileptics receiving SC.

## **1.6 Impact of the Study**

This study would demonstrate whether SC was effective in solving the defects of CC, by improving patients' knowledge and compliance, and primary health care providers' knowledge and practice. This would also discover the actual practice of

the current healthcare system, particularly GPs' practice with epileptics, and epileptics' behavior and reactions to their treatment. This information would help improve the CC in the correct aspect. In addition, this study introduced research to primary health care teams at CHs.