

## CHAPTER 1

### INTRODUCTION

#### **Background and significance**

The elderly population of Thailand is increasing rapidly. The population aged 60 and older comprised only 4.6 percent of the whole population in 1960, and they increased to 7.36 percent of the population in 1990, and will represent 15.28 percent by 2020 (Jitapunkul & Bunnag, 1997). With the rapid increase in the number of the elderly, the problem of falls has taken on ever increasing importance (Thaimwong, et al., 2001).

Fall is one of the important warning symptoms of underlying serious illness among the elderly (Assantachai, et al., 2002). In 1991 and 1999, the National Statistics Office reported falls as the first and the second leading cause of injuries in Thai population, respectively (National Statistics Office, 1991, 1999). Approximately 20 percent of Thai elderly living in the community had one or more fall (Jitapunkul, et al., 1998). However, the exact prevalence of fall is unknown due to underreporting. The elderly either forget or deny that a fall has occurred because of embarrassment or fear of losing one's independence (Stone & Wyman, 1999; Thaimwong, et al., 2001). Additionally, they and their caregivers perceived fall to be a consequence of normal aging and a reminder of increasing frailty (Rubenstein, et al., 2001; Thaimwong, et al., 2001).

Falls can have physical, psychosocial, and economic consequences (Parry, et al., 2001; Stone & Wyman, 1999). The importance of a fall lies in its effect on an older

person's health, functioning, and independence. Injuries and death, long lying periods resulting from inability to get up from the ground or floor, and decreased activities and mobility are important potential consequence of falling. Lausawatchikul and colleagues (2000) studied the related factors and outcome of fall in the elderly attending the outpatient department of orthopedic and emergency division at the Ramathibodi hospital. They found that fractures accounted for nearly 75 % of the injuries after fall. Approximately 45% of fractures were hip fracture and almost all cases were treated by surgery. In addition, it was estimated that the elderly patients with hip fracture require 21 days of hospital care. This is twice of an average length of stay for all other causes. There had been potential complications of hospitalization and surgery, resulting in a prolonged recovery period, temporary or permanent disability, and institutionalization (Stone & Chenitz,1991).

Furthermore, fall affects a person's quality of life, and produce psychological trauma such as anxiety, depression, fear of falling or fall phobia, feeling of vulnerability and fragility, or post fall syndrome (Ignatavicius, 2000; Parry, et al., 2001; Stone & Wyman, 1999). The fear and embarrassment of falling may cause patients to curtail their level of mobility and increase dependence. The psychological trauma can remain with a patient long after the physical injuries have healed (Cannard, 1996) and may also affect feeling about the performance of activities of daily living. Thus, caring for fallers should consider psychological problems. Many elderly avoid social activities or fear leaving their home after experiencing a fall (Ignatavicius, 2000).

As the incidence of fall in elderly increase, the money spent on their care also increases (Downtown, 1993). They are a high cost to the community and potentially

preventable (Tinetti & Williams, 1998). In Thailand, it is difficult to estimate the actual cost of caring for people who have fallen; acute care costs associated with fractures resulting from falls is about 12,334.6 baths per case (Tangjareonsatain, et al., 1994). When compare with average income per month of Thai family as 7,026 Bath/month (National Statistic Office, 1995), the money spent on their care was excess their income. Therefore, falls among the elderly result in poor outcomes and higher cost to individuals and society during the recovery process.

Falls in the elderly occur under a variety of circumstances and have many causes and contributing factors. Risk factors of falls are commonly divided into two categories such as intrinsic factors and extrinsic factors. Intrinsic factors consist of normal physiologic aging decline, pathological disease process, psychological such as anxiety, depression etc. Extrinsic factors consist of poor lighting, loose carpets, steep stair, slippery floors, etc. (Akid, 2002; Ignatavicius, 2000; Lange, 1996; Letvak, & College, 2000; Resnick, 1999; Steinberg, et al., 2000). The likelihood of falling increases with the number of risk factors of falls (Kempton, et al., 2000).

The consequences of falls among the elderly are serious (Eliopoulos, 2001). Most falls have many causes, only some of which are preventable (Rigler, 1999). If the elderly, family, community, and health care providers concern and continue to prevent and reduce risk and causes of falls for the elderly, the incidence of falls in the elderly will decrease (Vatesatakakit, 2000). In order to control falls and prevent falls, the elderly should perform their health behaviors by reduced or avoid causes of falls because the strategy that high efficiency and effectiveness to prevent falls in the elderly is elderly people should perform falls preventive behaviors (Katepitchayawattana,

2001). Falls preventive behaviors are divided into falls preventive behaviors related to intrinsic and extrinsic factors (Pornputasa, 1999). Fall preventive behaviors related to intrinsic factors such as get an annual physical and eyes examination, maintain diet with adequate dietary, participate in an exercise, change position slowly and never quickly rise from the bed or a chair, sleep and rest at least 6-8 hours, take medication as physician prescribed etc (Pornputasa, 1999). Falls preventive behaviors related to extrinsic factors such as home should be free of hazards and well lit, wear proper footwear, avoid clutter on floor surface, use a night-lights, wear prescription glasses, as appropriate, when out of bed etc. (Pornputasa, 1999).

Falls preventive behaviors are a part of health behaviors. Therefore, the elderly should perform the falls preventive behaviors to prevent falls, and danger from falls. The key to preventing falls is understandable and early detection of risk factors of falls (Lausawatchikul, et al., 2000). Pornputasa and colleagues (2000) studied knowledge, attitude and behaviors regarding falls prevention of the elderly found a very weak positive correlation between falls prevention knowledge and falls prevention behaviors ( $r = .20, p < .01$ ) and attitude toward falls prevention and falls prevention behaviors ( $r = .327, p < .01$ ) in the elderly. The reasons are not only knowledge and attitude influence toward falls prevention behavior but also other factors has influenced on falls preventive behaviors such as social support, social network, perceptions etc. (Iiamsakul, 2000). Among these influenced factors, perception is one of the most important factor that influence health behavior changes (Iiamsakul, 2000; Pender, et al., 2002).

According to the health belief model, the likelihood of an individual engaging in a specific health action to prevent a health problem is a function of the individual's

belief (Becker, et al., 1977 cited in Pender, et al., 2002). Perceived of risk or perceived susceptibility is one of the major variables of the health belief model. The person is more likely to engage in a specific health action or behavior if the person perceives greater susceptibility to the health problem (Becker, et al., 1977 cited in Pender, et al., 2002). Perceived risk is correlated significantly with health-related behavior in many studies in various age groups, including the elderly population (Pothiban, et al., 2000). Perceived of risk or susceptibility is an important variable with all health care professionals should be concerned about in planning an intervention for patients. Therefore, the investigator is interested in studying the perceived fall risk factors and falls preventive behaviors among the elderly in community. These data will be used as baseline information for appropriate planning to prevent and manage falls, and promote falls preventive behaviors among the elderly.

### **Objectives of research**

- To explore the levels of perceived fall risk factors and falls preventive behaviors among the elderly in community.
- To examine the relationship between perceived fall risk factors and falls preventive behaviors among the elderly in community.

### **Research questions**

- What is the level of perceived fall risk factors among the elderly in community?
- What is the level of falls preventive behaviors among the elderly in community?

- Is there a relationship between perceived fall risk factors and falls preventive behaviors among the elderly in community?

## **Hypothesis**

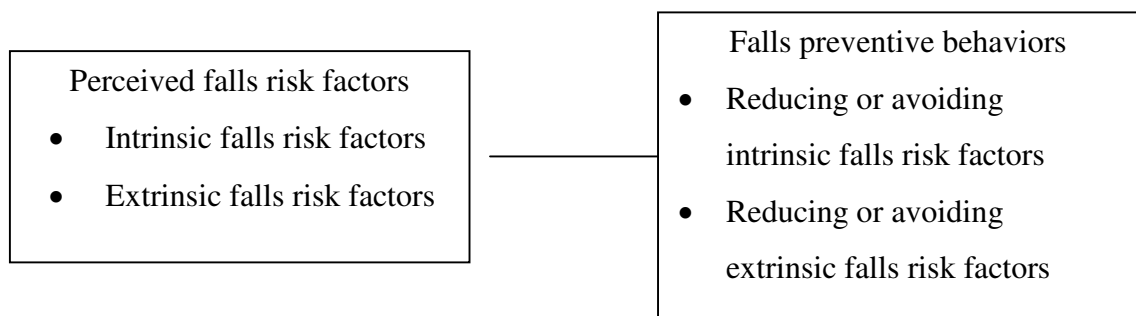
There is a positive relationship between perceived fall risk factors and falls preventive behaviors among the elderly in community.

## **Concept or theoretical framework**

According to health belief model individual will take action to ward off, to screen for, or to control ill health condition if they regard themselves as susceptible to the condition, if they believe it to have potentially serious consequences, if they believe that a course of action available to them would be beneficial in reducing either susceptibility to or the severity of the condition, and if they believe that anticipated barriers to (or costs of) taking the actions are outweighed by its benefits (Becker, et al., 1977 cited in Pender, et al., 2002). In this study, perceived susceptibility or perceived of risk was selected. It is one of the major variables in health belief model. In addition, it is well known to be essential in motivating people to take positive health actions that uses the desire to avoid a negative health consequence as the prime motivation (Becker, 1974 cited in Pender, et al., 2002).

Perceived fall risk factors refer to person's perception of the falls risk factors consists of perceived intrinsic and extrinsic risks factors of falls. The person perceived of risk of falls should be concordant with his or her actual risk. If people do not perceived or underestimate a risk, they are not likely to adopt recommended behaviors.

When a perception of falls risk factors is present, the reaction is generally avoidance of the situation. One manifestation of an avoidance reaction following the perception of a health risk is the elimination of the activity. The diagram of conceptual framework for this study was presented in figure 1.



*Figure1* Conceptual framework

### **Definition of terms**

**Elderly** is a person who is 60 years old or older and living in community, Yala province.

**Perceived fall risk factors** refer to an individual perception the degree each of risk factors she / he has. Perceived fall risk factors consist of perceived intrinsic and extrinsic fall risk factors. Intrinsic factors consist of normal physiologic aging decline, pathological disease process, psychological such as anxiety, depression etc. Extrinsic factors consist of poor lighting, loose carpets, steep stair, slippery floors, etc. The elderly perceived fall risk factors can be measured by Perceived Fall Risk Factors Questionnaire developed by the investigators.

**Falls preventive behaviors** is a behaviors of the elderly or the elderly actions to protect themselves from falls by reducing or avoiding intrinsic and extrinsic falls risk factors. Fall preventive behaviors related to intrinsic factors such as get an annual physical and eyes examination, maintain diet with adequate dietary, participate in an exercise, change position slowly and never quickly rise from the bed or a chair, sleep and rest at least 6-8 hours, take medication as physician prescribed etc. Falls preventive behaviors related to extrinsic factors such as home should be free of hazards and well lit, wear proper footwear, avoid clutter on floor surface, use a night-lights, wear prescription glasses, as appropriate, when out of bed etc. Falls preventive behaviors in elderly will be measured by Falls Preventive Behaviors Questionnaire developed by the investigator.

### **Expected outcomes from the research**

It is expected that the results of this study could contribute to:

1. The finding can be used as a guideline for health care professionals to promote fall preventive behaviors among the elderly.
2. The finding can provide evident bases data for nurses to contribute and develop a fall prevention program.