CHAPTER I

INTRODUCTION

This chapter presents several topics including background and significance of the research problem, objectives of the study, research hypotheses, and definition of the terms.

Background and Significance of the Research Problem

In countries around the globe, average life expectancy has risen dramatically, increasing the proportion of the elderly (World Health Organization [WHO], 2004). In Thailand, the elderly who are aged 60 years or more are also increasing significantly in numbers. The proportion of Thai elderly rose from 5.4% (1980) to 10.9% (2005) (National Statistical Office, Ministry of Information and Communication Technology, Thailand, 2006), and it is expected that it will be 19% in 2025 (National Economic and Social Development Board [NESDB], 2007). Between 1964 and 2006, life expectancy at birth of Thai people had increased from 55.9 to 69.9 in males and 62.0 to 77.6 years in females (National Statistical Office, Ministry of Information and Communication Technology, Thailand, 2007). In 2020, Thai people's life expectancy will reach 74.8 years in males and 80.3 years in females (NESDB, 2007). The growing number and proportion of the elderly place increasing demands on the public health system and on medical and social services. The WHO is leading an effort to draw attention to this phenomenon and the special challenges it

presents. Also, WHO has been focusing initiatives on helping the elderly and indicated an important strategy to improve health and quality of life for the elderly, that is promoting healthy aging (WHO, 2003). Empirical evidences indicate that healthy behaviors can help the elderly maintain health and functional independence that can lead to healthy aging and independent lives (Administration on Aging, U.S. Department of Health and Human Services, 2008).

The elderly are vulnerable to illness due to aging process. The causes of illness in this population group are also due to unhealthy behaviors. The major diseases known to be behavior related are coronary heart disease, some types of cancer, stroke, hypertension, obesity, osteoporosis, and non-insulin-dependent diabetes mellitus. These diseases are the major causes of morbidity and mortality among the elderly (Wibulpolpraset, 2007). It has been shown that modification of unhealthy or risk behaviors consisting of smoking, alcohol consumption, substance abuse, stress, sedentary activity, and inappropriate eating behavior can reduce the morbidity rate for these diseases (Keller & Fleury, 2000; McCann & Bovbjerg, 1998). Therefore, promoting healthy behaviors are vital for health promotion in the elderly.

Among all health behaviors, no exercise, random eating, substance abuse, smoking, and alcohol consumption are more frequently mentioned. A lot of studies have been conducted on exercise, while eating that has been well accepted as a strong predictor for health has been less investigated. Eating behavior is very vital to health for all age groups as the saying goes "you are what you eat" (American National Red Cross and Stay Well, 2004). Eating behaviors are defined as an individual's activities relating to food choice, food preparation, and food consumption behaviors (Suitor & Crowley, 1984). The studies recommended that healthy eating or appropriate eating

behavior provides a balanced intake of sufficient amounts of all nutrients that are required for growth development and physical activity, as well as for maintenance or restoration of health (Dudek, 2001). For the elderly, healthy eating could also help maintain adequate nutrition, prevent nutritional deficiencies and reduce disease risks. On the other hand, unhealthy diet consisting of high salt, fat, sugar and cholesterol can cause worsening of their disease condition (Fletcher & Rake, 1998). Healthy eating can help the elderly stay healthy, and improve poor health (American National Red Cross and Stay Well, 2004). Therefore, it is recommended that the elderly should maintain adequate nutrition, prevent nutritional deficiencies, and limit unhealthy diets (De Almeida, Graça, Afonso, Kearney, & Gibney, 2001). Promoting healthy eating or appropriate eating behavior should be an important strategy for helping the elderly improve their health, decrease the risks of chronic diseases, extend longevity, and enhance quality of life (Fletcher & Rake, 1998; WHO, 2003).

The U.S. Department of Agriculture and the Department of Health and Human Services (1995) defined "healthy eating" as "healthy food consumption behavior" including consumption of diets with; (1) low in fat, saturated fat, and cholesterol, (2) plenty of vegetables, fruits, and grain products, (3) moderate sugar, (4) moderate salt and sodium, (5) balanced diet, (6) variety of foods, and (7) moderately use of alcoholic beverages (if at all). They recommended that healthy eating should be used promoting health and reducing risks of some chronic diseases, particularly heart disease, certain types of cancer, diabetes, stroke, and osteoporosis. In Thailand, the term " healthy food consumption behavior", "nutrition behavior", and "healthy eating" seem to have similar meanings associated with right food consumption, meal pattern and food choice (Athikamanon, 1998; Chaisongkarm,

2002; Churthong, 2001; Panprom, 2002; Pothiban et al., 2002; Purinthrapibal, 1998; Sakulrang, 2001; Srisaad, 1997). The studies mentioned that healthy food consumption behavior, nutrition behavior, or healthy eating could prevent and decrease major risk factors relating to chronic diseases in the elderly including hypertension, diabetes, obesity, and stroke (Churthong, 2001; Neelapaichit, 2001; Purinthrapibal, 1998; Sakulrang, 2001). Therefore, to maintain a healthy state, the elderly have to maintain a healthy diet. Those who are not eating properly have to modify their eating behavior and those who have already modified their behavior have to maintain it. Modifying eating behavior, however, is not an easy task, since eating behavior is based on many intrapersonal factors including diets knowledge, attitudes, and beliefs as well as extra-personal factors including eating environments, peer pressure, and norm, etc. To successfully modify eating behavior, it is necessary to modify those related factors (Health Canada, 2001; Sherman et al., 2000).

Currently, Thai elderly tend to consume more sugar, salt, fat, alcohol beverages, and food prepared from flour and sugar, while taking less fruits and vegetables, this make them to be more prone to major chronic diseases (Wibulpolpraset, 2007). From literature reviews, many studies reported some factors that are related to food consumption or nutritional behaviors among Thai elderly. Factors associated with food consumption as nutritional behaviors among Thai elderly includes nutritional knowledge (Churthong, 2001; Neelapaichit, 2001; Sakulrang, 2001), perceived self-efficacy (Athikamanon, 1998; Chaisongkarm, 2002; Churthong, 2001; Purinthrapibal, 1998; Sakulrang, 2001; Srisaad, 1997), outcome expectations (Chaisongkarm, 2002; Churthong, 2001), perceived benefits of nutritional behavior (Athikamanon, 1998; Srisaad, 1997), perceived barriers to nutritional behavior

(Athikamanon, 1998; Pothiban et al., 2002), and social support from family members, friends, researcher, research assistant team, and sub-district administration officers (Churthong, 2001; Intarapanich, 1994; Panprom, 2002). In addition, personal factors such as educational level, gender (Cheunarrom, Thagleawpun, & Sittiruk, 2000; Pothiban et al., 2002), and income (Sanguanwong, 1996; Warahut, 1999) were also significantly related to nutritional behavior among Thai elderly. These findings support the usefulness of Pender's Health Promotion Model for explaining food consumption or nutritional behaviors, since this model incorporates individual characteristics and experiences, and behavior-specific cognitions and affect, that motivate health-promoting behavior as found in previous studies (Pender, Muraugh, & Parsons, 2002). Based on those previous studies, nutritional knowledge, perceived self-efficacy, perceived benefits of nutritional behavior, and perceived barriers to nutritional behavior were the important factors related to healthy food consumption behavior or nutritional behavior or healthy eating. Furthermore, social support is an important factor associated with healthy food consumption behavior or nutrition behavior or healthy eating. Especially, social support from family members can encourage adoption and maintenance of healthy eating in the elderly (Churthong, 2001; Haber, 1996; Wellman, 2004). These relating factors have strong capacity to promote healthy eating for the elderly, and encourage them to maintain healthy eating. Therefore, they should be chosen for promoting healthy eating among Thai elderly.

As the number of the elderly in northeastern Thailand has increased to 10.7% of the total population similarly to other regions (National Statistical Office, Ministry of Information and Communication Technology, Thailand, 2007), the survey research of the northeastern elderly in seven provinces found that more than half of the elderly

(51.0%) had chronic diseases such as diabetes mellitus and arthritis, and 51.3% were frail (Tewanda & Sanjai, 2002). The record of the elderly clinic at Sri Sa Ket Hospital from 1998-2000 showed that the elderly were suffering from osteoporosis, hypertension, cancer and diabetes which prevalence was increasing steadily (Panprom, 2002). Furthermore, the survey on quality of life also revealed that the majority of illnesses among the northeastern elderly were diabetes mellitus and hypertension (Nutrition Division, Ministry of Public Health of Thailand, 2006: Wibulpolpraset, 2007). Several studies reported that these health problems were mostly lifestyle related, particularly eating habits related (Intarapanich, 1994; Srisaad, 1997; Thongyord, 2000). Furthermore, a preliminary study by Meethien and Pothiban (2005) showed a significant relationship between lifestyle behaviors including eating behavior and health status.

Unfortunately, as reported in some previous studies, the elderly in the northeastern region tended to have unhealthy eating behavior. They were more likely to increase fat, salt, carbohydrate, sugar, alcohol and fermented food, to decrease milk or soy bean milk (Srisaad, 1997; Thongyord, 2000), and to decrease fish, nuts, chicken, vegetables and fruits (Chai-Ayuth, 1999). Some elderly bought food from market rather than cooked for themselves. Most foods were cooked using lots of fatty meat, palm and pork oil, and monosodium-glutamate. Cooking using frying or stir-frying was found more often than baking, grilling, or steaming. Many kinds of food were preserved in the forms of sausage, or by fermentation, drying and salting. These kinds of food contain lots of sodium (Thongyord, 2000). Also, a report of nutritional survey of Thailand (2005) revealed that most elderly in the northeastern region consumed more sugar than the elderly in other regions. They tended to increase the

consumption of alcoholic beverages, salt, fatty meat, red meat, fried or stir-fried food, and fermented food (Nutrition Division, Ministry of Public Health of Thailand, 2006). Furthermore, Assantachai (2000) studied nutritional status of Thai northeastern elderly found that the elderly had some problems relating to deficiency of vitamin A, vitamin C, vitamin E, and folate. This study mentioned that unhealthy eating behavior of the elderly was an important cause relating to these findings of the results.

Since most elderly in the northeastern region live with their families, family members have important roles in taking care of and supporting their elderly. Most of the family members, however, still lack knowledge, information and skills for caring their elderly (Tewanda & Sanjai, 2002). Similarly, the elderly have themselves some problems relating to healthy eating including limited nutritional knowledge and accessibility to health care service, and financial problems. These problems are prominent, especially in the elderly living in rural area (Nanasilp, 1999). Therefore, the intervention for promoting and sustaining healthy eating for those elderly, will involve both the elderly and their family members.

From literature reviews, the studies reported the effectiveness of health education interventions in enhancing knowledge, attitudes, and beliefs pertaining to healthy eating. Three major approaches of health education interventions including individuals, groups and whole population (communities) were recommended for promoting health-related behaviors including healthy eating (Egger, Spark, Lawson, & Donovan, 1999). Individuals and group approaches are suitable interventions for the study having limitations of time and money. Both approaches have several advantages including being inexpensive, time saving, easily implemented and accessed, and highly motivated people to effectively promote healthy eating. For

community approach, this approach can have effects on the individuals, groups, whole people and the environment. Therefore, the interventions will largely dependent on the actions of central and regional governments, and will demand more resources including time and money. Moreover, sometimes this approach acts slowly that are related to difficulty in community activation (McCann & Bovbjerg, 1998).

For the elderly, there have been efforts to promote healthy eating. Some studies showed the effectiveness of health education interventions in promoting nutritional knowledge (Klinedinst, 2005; McCamey et al., 2003; Sharp et al., 1996), attitudes (Klinedinst, 2005; Mayeda & Anderson, 1993) and eating behaviors (Klinedinst, 2005; Long, Saddam, Conklin, & Scheer, 2003; Marcus et al., 2001; McCamey et al., 2003; Sharp et al., 1996). Several theories/models were applied to the programs in those studies such as Transtheoretical Model, Theory of Planned Behavior, Social Cognitive Theory, and Health Belief Model. However, multiple educational methods including teaching and training for cognitive, skill and affective learning, self-help (self-directed and self-packed educational learning), nutritional counseling, goal settings, and social support have been recommended in those studies. Similarly, other studies also recommended that multiple educational methods should be used for effectively improving eating behaviors in the elderly (Ammerman, Lindquist, Lohr, & Hersey, 2002; Fletcher & Rake, 1998; Sahyoun, Pratt, & Anderson, 2004; Wellman, 2004). Furthermore, the methods of motivation and group participation should be implemented to promote healthy eating in the elderly (Ammerman et al., 2002; Fletcher & Rake, 1998; Sahyoun et al., 2004).

For Thai elderly, use of theory-based educational programs was demonstrated to effectively promote health promoting behaviors including healthy

food consumption or nutritional behaviors. In some studies, the researchers developed the programs based on self-efficacy theory (Chaisongkram, 2002; Neelapaichit, 2001; Purinthrapiban, 1998; Sakulrang, 2001), a combination of self-efficacy theory and social support (Churthong, 2001), Motivation Theory (Thongyord, 2000), and Pender's Health Promotion Model (Athikamanon, 1998). Those studies used an individual or group approaches and a variety of educational methods such as teaching, group discussion, individual counseling, giving handbooks (or handouts), food menu planning, skill training, modeling, and home visits. Although the programs used in those studies showed their effectiveness in increasing healthy food consumption or nutritional behaviors, they had some limitations. Most programs were developed for the elderly residing in municipalities of the central region. Also, most programs were studied in short-term period with limited follow up evaluation, at 4 -12 weeks. Therefore, long-term effectiveness of those educational programs or the best methods to sustain healthy food consumption or nutrition behaviors among Thai elderly were not investigated.

Even though there are a few programs developed for encouraging health promotion behaviors, a program for enhancing and maintaining healthy eating in Thai elderly living in the northeastern region was not found in the literature review. To promote healthy eating of the elderly, the practitioners need to ensure that they have adequate knowledge and skills pertaining to healthy eating. Also other related factors to eating behaviors have to be manipulated. Since there is evidence that some factors are derived from Pender's Health Promotion Model including nutritional knowledge, perceived self-efficacy, perceived benefits of and perceived barriers to healthy eating, and social support from family members are significantly associated with healthy

eating, those factors will be modified in this study. Therefore, the researcher will construct a nutritional education program using multiple educational methods, and using both individual and group approaches to promote healthy eating for Thai elderly in the northeastern region. It is expected that the program will positively affect eating behavior of those elderly and the findings will provide a knowledge base for improving and maintaining healthy eating of the elderly.

Objectives of the Study

The objective of this study is to examine the effectiveness of a nutritional education program for promoting healthy eating among the elderly in northeastern Thailand.

Specific objectives were:

1. To compare healthy eating of the elderly in northeastern Thailand between those receiving a nutritional education program for promoting healthy eating and those receiving usual education.

2. To compare healthy eating of the elderly in northeastern Thailand between before and after receiving a nutritional education program to promote healthy eating.

Research Hypotheses

1. Healthy eating of the elderly in northeastern Thailand receiving a nutritional education program for promoting healthy eating is better than those receiving usual education.

2. Healthy eating of the elderly in northeastern Thailand after receiving a nutritional education program for promoting healthy eating is better than before receiving the program.

Definition of Terms

The elderly in the Northeastern region are persons aged 60 and over residing in Maha Sarakham Province.

Healthy eating refers to the activities related to proper food choice, food preparation and food consumption behavior performed by the elderly aiming to obtain clean and adequate major nutritious substances of food, to limit sugar, sodium, cholesterol, fat and alcohol, to increase the amount of fibers from fruits and vegetables, and to drink adequate clean water. It was measured using The Elderly Healthy Eating Scale that was developed by the researcher.

Usual education refers to routine activities of health education or suggestions that the elderly receive from health care providers or family members or friends or others at primary health care units, hospitals or homes.

A Nutritional Education Program refers to a 3 month – program developed by the researcher based on Pender's Health Promotion Model using educational strategies to modify the elderly's knowledge and cognition pertaining healthy eating that includes nutritional knowledge, perceived self-efficacy for healthy eating, perceived benefits of healthy eating, perceived barriers to healthy eating, and perceived social support from family for healthy eating. The program includes goal settings, teaching, demonstrating, training, counseling, motivating, maintaining and monitoring using both group and individual approaches.