

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Rationale and Background**

The Population Division of the Department of Economic and Social Affairs of the United Nations reported that the number of elderly people in 2050 will be increased from 11 percent in 2009 to 22 percent in 2050 which will be surpass from 700 million to 2 billion people (1). Thailand also has a changing population structures with the proportion and the number of the elders that was increased follows to world's population structure. The proportion of elder populations in 1990 was estimated by The Office of National Economic and Social Development Board that will be increased from 7.3 percent to 15.3 per cent in 2020. This shows that Thailand is going to be an aging society like other countries around the world (2). The rapid growth of elderly people is a result from the development in medical treatment and a good public health distribution. However, the longer ages are coming with health problem like chronic disease hypertension, diabetes mellitus, cardiovascular disease, and dementia. Dementia is a health problem that rapid growing in elderly people. According to a Delphi consensus study, it is estimated that the number of dementia patient is more than 24 million people in the world and the number of new dementia patient is more than 4 million people per year. Moreover, it expected to be increased more than 81 million people in the year 2040 (3).

Dementia is a disease consisting in a paralysis of the spirit characterized by abolition of the reasoning faculty. It differs from fatuitas, morosis, stultitia and stoliditas in the latters. There is a weakening of understanding and memory, and from delirium which is a temporary impairment in the exercise of the said function (4).

The ICD-10 criteria (World health organization, 1992) (5) described dementia as “a syndrome due to disease of the brain, usually of a chronic or progressive nature in which there is disturbance of multiple higher cortical functions including memory, thinking, orientation, comprehension, calculation, learning capacity,

language and judgment. Consciousness is not clouded. The impairments of cognitive function are commonly accompanied, and occasionally preceded by deterioration in emotional controls, social behavior or motivation”.

There are four types of dementia. More than 60 per cent of dementia patient have Alzheimer’s disease and 10-20 percent of dementia patients have vascular dementia (6). Only 5-10 of dementia patients can be recovering and must be caused by other dementia for instance, caused by vitamin B1 deficiency, or vitamin B12 deficiency. In addition, it is upon the severity of brain damage. The dementia patient who have mild brain damage and early detection can be recover and after that the dementia patient will always has the same symptom (6, 7).

The criteria that usually used to detect the dementia is “The DSM-V” (8) criteria. The symptom of dementia as defined by DSM – IV-TR criteria was still used to detect dementia in Thailand, it is a worsening memory and other cognitive function. At least one of four clinical diagnosis by absence of delirium or other clinical features consistent with physical abnormalities or chemical abnormalities. Dementia is established by clinical examinations, laboratory examinations, radiation examination and confirmed by neuropsychological test (9).

The risk factors of dementia are such as hypertension, diabetes mellitus, smoking and alcohol consumption. Drug is not the main treatment for dementia patient. Some evidence showed that cognitive training like brain training, behavior therapy, and activity therapy are effective for dementia patient (9). Dementia creates a high burden to the patient, his/her family, and the society (10). World Alzheimer report in year 2011 reported that most of people who is currently living with dementia have not received a formal diagnosis. In high income countries, only 20-50% of dementia cases are recognized and documented in primary care. This ‘treatment gap’ is certainly much greater in low and middle income countries, with one study in India suggesting 90% remain unidentified. If these statistics are extrapolated to other countries worldwide, it suggests that approximately 28 million of the 36 million people with dementia have not received a diagnosis, and therefore do not have access to treatment, care and organized support that getting a formal diagnosis can provide (11).

Treatment might be less effective for moderate and severe states than the early state. However, it is difficult to diagnosis dementia patient in general population because it have to confirmed by many medical specialist (12). Due to the limitation of diagnosis, the screening test for dementia is used as an alternative method for detecting dementia in general population because it is not complex, cost saving, and it can identify dementia in the general population. Screening test is use for detecting dementia patient refer to dementia diagnosis and early treatment (13). Earlier diagnosis for people with dementia means there is an increasing opportunities to provide psychological intervention from the earliest stages of dementia and planning to promote the best possible quality of life for both people with dementia and their caregivers (14).

Many screening test instrument were developed to used for detecting dementia for example, Clinical Dementia Rating (CDR), Information-Memory-Concentration Test (IMC), Informant Questionnaire for Cognitive Decline in the Elderly (IQCODE) (4, 6). However, there was limitation due to the use for detecting dementia with elder Thai people, because it has to use by a great experience and good skill interviewer. Mini-Mental Status Exam (MMSE) is widely used to assess the current state of cognitive status (15). This study used an alternative screening test for dementia in Thailand with MMSE Thai 2002 and modified IQCODE that translated into Thai and the wording was modified for the Thai culture (16).

Fourth National Health Examination Survey 2008 (NHES 4) reported that the prevalence of dementia in Thai patient in 1996 was increasing from 3.3 percent to 12.3 percent in 2008 (12, 17). The northern region is in the second rank with 12.5 percent of dementia patient. Lampang province in the northern part is an aging province. The increasing number of elderly people was increased from 12.59 percent in 1999 to 15.47 percent in 2010 (18). There is a survey among elder population in Maepruk district. It found that there were 1,139 elderly people and 15 percent of them had dementia (19).

According to this problem, it needed to plan and promote the best possible quality of both social and life of the elderly people. Therefore, the study of the prevalence factors associated with dementia among elderly people in Lampang province was interesting and very useful because the results will let people aware of

dementia in Lampang province and it can guide to the control and prevent the dementia in the future.

## **1.2 Research Question**

1. How was prevalence of dementia among elderly people in Lampang province?
2. What factors were associated with dementia in elderly people?

## **1.3 Research Objective**

### **1.3.1 General objectives**

To determine the prevalence and factors related with dementia in elderly people, Lampang province.

### **1.3.2 Specific objectives**

1. To study prevalence of dementia among elderly people in Lampang province.
2. To study demographic, family characteristic, risk factors, and clinical of elderly people in Lampang province.
3. To assess the association between demographic and dementia of elderly people in Lampang province.
4. To assess the association between family characteristic and dementia among elderly people in Lampang province.
5. To assess the association between risk factors and dementia of elderly people in Lampang province.
6. To assess the association between clinical factors and dementia elderly people in Lampang province.

## **1.4 Research Hypotheses**

1. Demographic would be associated with dementia in elderly people.
2. Family would be associated with dementia in elderly people.
3. Risk factors would be associated with dementia in elderly people.
4. Clinical would be associated with dementia in elderly people.

## **1.5 Research Variables**

### **1.5.1 Independent variables are including:**

#### **1) Demographic factors**

- (1) Gender
- (2) Age
- (3) Educational level
- (4) Marital status
- (5) Income
- (6) Occupation
- (7) Daily activity level
- (8) Life crisis event
- (9) Leisure Activities

#### **2) Family Characteristics**

- (1) Family member had history of dementia
- (2) Living arrangement
- (3) Caregiver

#### **3) Risk factors**

- (1) Smoking
- (2) Alcohol consumption
- (3) Physical activities
- (4) Drug usage
- (5) Supplement usage
- (6) Vitamin usage
- (7) Food consumption

(8) History of exposure to organic solvent

**4) Clinical factors**

(1) Hypertension

(2) Diabetes mellitus

(3) Dyslipidemia

(4) Body mass index (BMI)

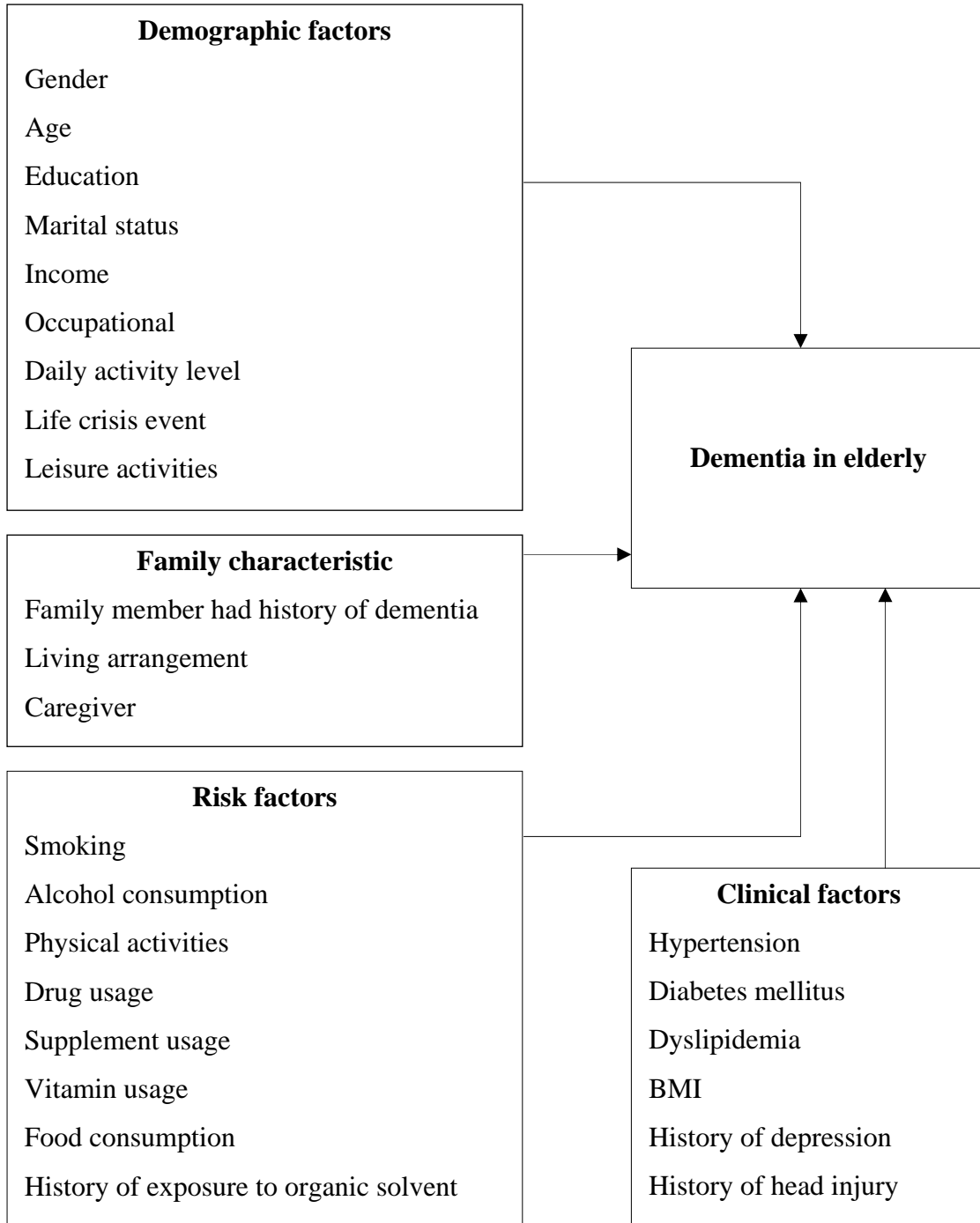
(5) Had History of depression

(6) History of head injury

**5) Dependent Variables**

Dementia in elderly people in Lampang province

### 1.6 Conceptual Framework



## 1.7 Definition of the Study

1. Elderly people/ elder refers to people who have age at least 60 years old.
2. Informant person refers to a person who takes care of the elderly people for at least 10 years.
3. Dementia refers to the elderly person who has positive result from the MMSE Thai 2002 or modified IQCODE screening test.
4. MMSE Thai 2002 refers to the screening brain test for elderly people.
5. Modified IQCODE refers to the screening test for informant person.
6. Occupational refers to a type of work related to incomes or payments of the elderly people for their daily living.
7. Leisure activities refer to the activities that elderly people do for example, visiting their friends or relatives, volunteering to the community, singing songs, and dancing.
8. Caregiver refers to the person like spouse, children, relatives, or other who takes care to the elders in activities as eating, or walking, etc. This may include the sufficient of their care too.
9. Family member had history of dementia refers to subject who had a family member such as father, mother, or sibling with a history of dementia
10. Living arrangement refers to the scale and the environment of the elder's family for example, single family, extended family, and the relationship within the family.
11. Physical activities refer activities for body moving such as competitive exercise, recreation sport, housework, or walk.
12. Drug usage refers to people who take Non-steroidal, anti-inflammatory drugs.
13. Supplement usage refers to person who takes supplement like ginkgo, cod liver oil, omega 3 or hormone.
14. Vitamin usage refers to person who takes vitamin for instance, folic acid, vitamin B6, vitamin B12, vitamin C, and vitamin E.

15. Food consumption refers to eating habit of the subjects within 10 years, including what food they eat, healthy food or unhealthy food, and the amount of food that they consumed.

16. Underlying refers to effect of chronic disease diagnosed by a doctor such as hypertension, diabetes mellitus, and dyslipidemia.

17. Obesity refers to subject who has over body mass index (BMI).

18. History of depression refers to subject who has depression for 10 years before this study or subject who has history of using anti-depressant drugs and has been recovered.

19. Depression refers to person who has positive result from the 2Q screening test.

20. History of exposure to organic solvent refers to elderly people who has history of touched the chemical substance such as organic solvent, pesticide, or insecticide.