CHAPTER I

INTRODUCTION

Background and Significance of the Problem

Population is the foundation and mechanism vital to the development of the country, and the health of the people is the most important component. People should have good health and quality of life at all ages. According to the 8th National Economical and Social Development Plan (year 1997-2001), human beings were declared as the center of overall development. This philosophy was aimed at a potential development of individuals: body, spirit, and intelligence. Therefore, the improvement of physical condition and health are important to the fundamental composition. The population should be educated on health promotion, prevention, and also on appropriate health behavior, which will lead to a good quality of life.

With the development of social economics and technology, the affects on human behavior and life style leads to a increasing rate of non communicable diseases. Human behavior concerns smoking cigarettes, bad diet, exercise, and stress management. Examples of non-communicable diseases include diabetes mellitus (DM), hypertension, heart disease, and cancer.

Diabetes mellitus (DM) is a metabolic disease and is caused when the body does not produce or properly use insulin. Insulin is a hormone that is used to convert sugar, starches and other food into energy needed for daily life. Without insulin, sugar-the body's main energy source, builds up in the blood. The risk of DM is associated with poor health behavior (diet, exercise, stress management, etc.) obesity, and aging of 30 years or older. (Tap Himatongkum, 2002: 35) Diabetes mellitus usually begins and progresses slowly and symptoms may not appear for years, even decades. A healthcare provider may suspect diabetes in patients with symptoms such as excessive thirst; frequent urination or complication of DM. Diabetes mellitus is a systemic disease that affects essentially every organ of the body. The fatal outcome is related to the development of acute or chronic complications, particularly the latter. Cardiovascular and renal lesions are the most common abnormalities that lead to death. (Vittaya Sedama, 2002: 120)

The prevalence of DM in the total population of the United States in 1998 by age group, was as follows: 18-44 years old, 1.5%; 45-64 years old, 6%; and 65 years old and over, 11% of the total population. In Thailand, the prevalent rate of DM in 1978 was 2.5% of the population and had doubled by the year 1986 to 5%. (Bontip Siritringsee, 1996: 50). Diabetes Mellitus was ranked as the number 6 cause of death in Thailand in 2000. (Junpen Chuprapavan, 2000:24-27).

From non-communicable disease data of Trang Province from 1997-2001, the screening for DM on the population, 30 years of age or older, was 28.02%, 42.42%, 39.43%, 42.06%, and 23.99%, respectively. The prevalence rate of DM in Trang

Province for these years was: 0.32%, 0.33%, 0.37%, 0.41%, and 0.42%, respectively. From the non-communicable data of Huai yot District in 2002, the screening of DM of population of 30 years of age or older, was 13 %. Wangkeeree Sub-district data in 2002 showed the screening for DM on the population of 30 years of age or older, was 15 %. The screening for DM was in accordance with the standard of Trang Province of strategy of health and the 9th Natural Economic and Social Development Plan (2002-2006). The majority of the policy focused on and proposed the setting for the screening for DM at 70% of the population. In 1997-2001, the percentage of diabetics in Wangkeeree Sub-district was as follows: 0.68%, 0.97%, 1.11%, 1.11%, and 1.12%, respectively. This rate is lower than the standard of prevalence rate of Thailand (6%) (Suvanchi Vattanayingjarern, 2001: 17).

From development social, economic and technology affect to chance behavior and life styles, the new behavior is cause to increase the number of chronic diseases. Diabetes mellitus is one of most central health problems concerning health care workers today, and its trend increases every year and at every level. The highest risk of DM is population of 30 year and over, who has been inappropriate health behavior. Diabetes patient at Wangkeeree Sub-District was diagnosed process before they have had know complications of DM. But this problem decreases if diabetics manacle themselves by screening their blood sugar. Wangkeeree Sub-District use manacle screening urine test at health centers, but now health personnal do screening of blood sugar levels at the patient's home. The researcher's work concerns public health at Wangkeeree Health Center. The researcher has become aware of the importance of preventive health action for DM and investigated knowledge, attitude, and preventive

health action and the prevalence of DM among the people at Wangkeeree Sub-District, Huai yot District, Trang Province. The investigator used the Health Belief Model theory (HBM) to guide this study. The results of this study will be used to plan and educate the population regarding behavior affecting DM, and decrease DM's problem.

Research Questions

1. What are the knowledge level, attitude level, modifying factor level and preventive health action level of the population at Wangkeeree Sub-District?
2. What is the prevalence of DM among people at Wangkeeree Sub-District?
3. Does the knowledge level, attitude level and modifying factor level of DM associate with the preventive health action level of the population at Wangkeeree Sub-District?
4. Does the preventive health action level associate with DM prevalence of the population at Wangkeeree Sub-District?

Objectives

- **General objective**

To study the knowledge, attitude, modifying factors, preventive health action and prevalence of DM among the people at Wangkeeree Sub-District, Huai yot District, Trang Province.

- **Specific objective**

1. To study the knowledge, attitude, modifying factors, and preventive health action of DM of the population at Wangkeeree Sub-District, Huai yot District, Trang Province.
2. To study the prevalence of DM of the population (≥ 30 years old) at Wangkeeree Sub-District, Huai yot District, Trang Province.
3. To determine the association among knowledge, attitude, modifying factors, and preventive health action level of the population at Wangkeeree Sub-District, Huai yot District, Trang Province.
4. To determine the association between preventive health action of DM and prevalence of DM among population (≥ 30 years old) at Wangkeeree Sub-District, Huai yot District, Trang Province.

Research Hypothesis

1 Knowledge, Attitude, and Modifying factors of DM are associated with preventive health action of DM.

2 Preventive health action of DM is associated with the prevalence of DM.

Variables

Independent Variables

Knowledge of DM

- Susceptibility, severity of DM
- Complication of DM
- Preventive health action for DM

Attitude of preventive health action of DM

- Feelings toward preventive health action of DM
- Beliefs about preventive health action of DM
- Intention to preventive health action of DM

Modifying factors

- Demographic data: age, gender, marital status, occupation, education, family history of DM, ailments, body mass index (B.M.I.) and latest physical examination.
- Cues to action: Mass media campaigns, advice from others, reminder postcards from physician, illness of family member or friend, newspaper or magazine articles
- Social support

Dependent Variable

Preventive health action

- Nutrition
- Exercise
- Stress management

Prevalence of DM

- Blood sugar level

Variable Table

Table 1.1 : Research variables

Conceptual Variables	Operational Variables	Determinant scales	Measurement method
Knowledge of DM			
- Susceptibility, severity	Test score on knowledge	Ordinal	Questionnaire
- Complication of DM			
- Preventive health action of DM			
Attitude	Likert' scale on feelings,	Ordinal	
- Feelings	beliefs, and intentions toward		
- Beliefs	preventive action of DM		
- Intentions	Demographic data		
Demographic	1.Age	1.Ratio	
	2.Gender	2.Nominal	
	3.Marital status	3.Nominal	
	4.Occupation	4.Nominal	
	5.Education	5.Ordinal	
	6.Family history of DM	6.Nominal	
	7.Ailment	7.Nominal	
	8.B.M.I.	8.Ratio	
	9.Physical examination	9.Nominal	
Modifying Factor	Frequency of accepted data	Ordinal	Blood test
- Cues to action			
- Social support			
Preventive Health Action	Frequency of practice	Ordinal	
- Nutrition			
- Exercise			
- Stress managements	Blood sugar level		
Prevalence of DM		Ratio	

Conceptual Framework

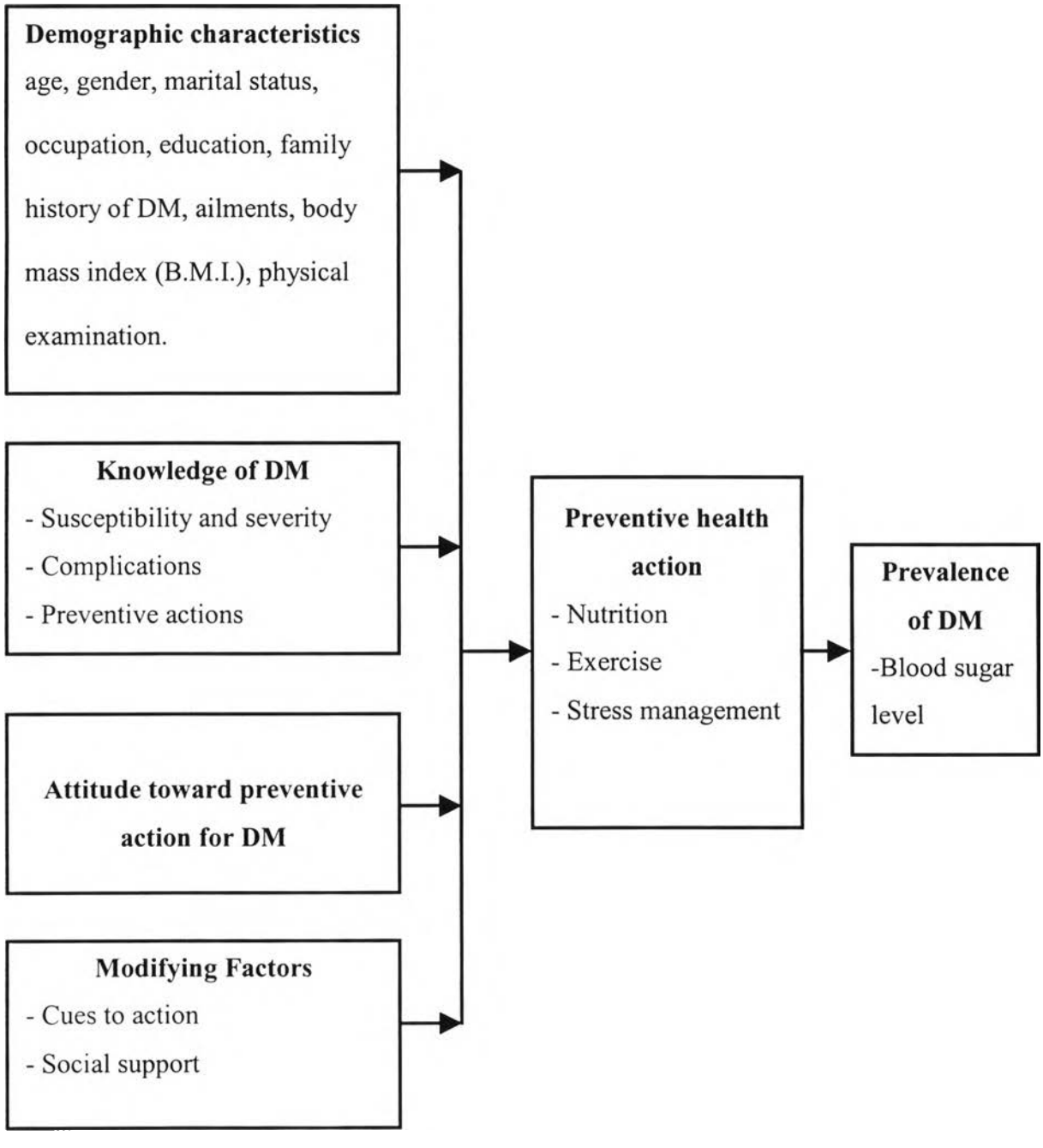

Figure 1.1 : Conceptual Framework

Definition of Terms

DM: Means Diabetes Mellitus

B.M.I.: Means Body Mass Index

Prevalence of Diabetes Mellitus: Means the number of DM in a given population at a specified point or place. The DM population was screened by Self Monitoring of Blood Glucose (SMBG). The standards of The American Diabetes Association (ADA) for a random plasma glucose test was used to measures the amount of glucose in the blood. The test does not require fasting (abstaining from eating for a specified length of time) and therefore can be done at any time. A random glucose value of greater than or equal to 200 mg/dl (milligrams per deciliter) indicates a diagnosis of diabetes.

Preventive Health Action of Diabetes Mellitus: Means the practice of preventive health action for Diabetes Mellitus; this means these components examined the value placed by an individual on a particular outcome and the individual's estimation of the likelihood that a given action will achieve that outcome.

High Risk of Diabetes Mellitus: Means population is 30 years old and over

Ailment: Means DM., Hypertension, or Heart disease

Age: Means Number of years on their last birthday

Education: Means the highest level of education

Occupation: Means position held and income generated

Physical Action: Means exercise and does not consider their regular work as exercise.

Modifying Factors: Means cues to action and social support

Expected Outcomes and Benefits

The results of this study will be used to:

- Assist in planning knowledge factors that are relevant to health-promoting behavior in diabetics.
- Assist for investigators to study other aspects of health-promoting behavior in diabetics.
- Assist for planning appropriate health-promoting behavior to the diabetic and their families.

Limitations of the Study

1. Questions are sensitive and could result in a response bias.
2. Wangkeeree Health Center has Accu-Chek Advantage for blood test.
3. Random Plasma Glucose Test
   - Location of Wangkeeree is far from Hospital
   - Most of the people have rubber-cut occupation; they went to work at midnight and finished their work at 10-12 o'clock.