CHAPTER V

CONCLUSIONS, DISCUSSIONS, AND RECOMMENDATIONS

There are three parts included in this chapter:

Part 1. Conclusions

Part 2. Discussions

Part 3. Recommendations

Part 1. Conclusions

This study had the objectives of studying knowledge, attitude, modifying factors, preventive health action of Diabetes Mellitus (DM) among the people at Wangkeeree Sub-District, Huaiyod District, Trang Province. The design of this study was a cross-sectional descriptive study among population 30 years old and over. The investigator collected data by an interview questionnaire and blood sugar level test from 350 populations. The questionnaire was coded and entered by using the SPSS statistical software package. The critical significant level was set at 0.05. This study used descriptive statistics including frequencies, mean and standard deviation. The Chi-square test was used to determine the association between demographic data, knowledge, attitude, modifying factors, preventive health action and prevalence of DM.

The research results showed that most of the population had a high knowledge level of DM, moderate attitude level of DM, low modifying factors level, and appropriate of preventive health action of DM; respectively. Prevalence of DM was 2.9% of the 30 years old and over of peoples by blood sugar test. Preventive health actions of DM was associated with attitude and modifying factor of DM, but was not associated with knowledge of DM. Prevalence of DM was not associated with preventive health action of DM.

Part 2. Discussions

The purpose of this study was to determine the prevalence of DM in the population of Wangkeeree Sub-district, and to investigate the relationship among demographic data, knowledge about DM, attitude of preventive health action, modifying factors and preventive health action.

The findings revealed some interesting points, which will be discussed as follow:

1. Demographic characteristics of the population

The respondents are more female than male because when the researcher made home visits, the male has gone to work. Most of the non-respondents were 70 years old and over. Most of the respondents were married, had agricultural occupation, and finished primary school. Only 4.3% of the respondents reported having diagnosed as DM.

2. The overall knowledge about DM

The overall knowledge about DM was not associated with the preventive health action (p>0.05). In other words, the people who had knowledge about DM stated that it had no effect on their preventive health action. Moreover, the respondents who had a high knowledge of DM reported they had taken inappropriate preventive health action.

This discrepancy could be the result of a combination of a few confusing statements in the questionnaire, and the nature of the subjects. Most subjects were elderly who could have easily become confused with some of the overwhelming questions that this study used to measure many of the factors. Nevertheless, this study agrees with Katanmongkon, (2000), which found that knowledge of diabetes mellitus, perceived severity of diabetes mellitus and perceived advantages of following the health personal suggestions, were not associated with controlling blood glucose level behavior among non-insulin dependent diabetes mellitus (NIDDM).

According to Health Belief Model (HBM), Backer (1975) postulates that although knowledge is an important related factor leading to preventive health action, merely increasing knowledge does not always change behaviors. In this study, most of the subjects were age between 30-49 years old, who might have had many experiences from self-learning or exchanging information with others. As a result, the people would develop sum values, beliefs or attitudes that could affect either good or poor health behavior. An increased knowledge therefore does not always cause changes in behavior. That may be the same reason, as in this study, that although the subjects had a

good level of overall knowledge, they would have other motivations, beliefs or attitudes which had a greater effect on their preventive health action.

When looking at individual questions on the questionnaire, of the 15 questions about knowledge of DM, most of the respondents (over 80%) answered 11 questions correctly. The other four questions were answered incorrectly by about 60% of the respondent. The four questions were about familial effect of DM, severity and complications of DM. They did not realize that DM can pass through gene. They also did not know that chronic DM could lead to severe illnesses such as renal diseases, heart disease, and blindness. However, 86.6% of the respondents had high and median level of knowledge.

3. The overall attitude about DM

Another factor which can predict total preventive health action of DM is attitude. The study found that the overall attitude about preventive health behavior was associated with the preventive health action (p< 0.05). Most of the people who reported having positive attitudes also reported correct preventive health action. Of the three categories of attitude studied in this research, stress management, eating habits, and exercise, the lowest level of attitude was that of exercise; only about 30% has appropriate attitude about exercise.

4. The modifying factors about DM

The majority of the people reported having received low level of formal cue to action of DM knowledge or prevention, but they reported having regular social stimulus

about healthy eating, exercise and relaxation. The overall modifying factor about DM was associated with preventive health action. This finding agrees with Katanmongkon (2000) which found that reinforcing factors (informational perception and support from their husband, wife, parent, and health personal) showed statistically significant association with the level of behavior controlling glucose levels among NIDDM patients.

5. The preventive health action about DM

From the findings, total preventive health action and the subcategorized three aspects that included nutrition, exercise, and stress management were rated at appropriate level. Surprisingly, the overall preventive health action of DM is not associated with prevalence of DM (p> 0.05). The preventive health actions will be discussed in three areas as follows:

5.1 Nutritional health action

The majoring of subjects had an appropriate level of nutritional health action. This may result from the characteristic of the subjects who were mostly healthy, and had no ailments (88.3%). Most of the subjects' occupation was agriculture and had flexible time to do what they wish, especially cooking. In addition, their food was composed mostly of vegetables due to cultural preference. Therefore, the subjects who already had knowledge about suitable food for their family were more likely to cook healthy food for their family.

This study found that nutrition health action about DM was not associated with the prevalence of DM (p>0.05) because the study found that most of the subjects with normal blood sugar (≤200mg/dl) reported inappropriate and slightly appropriate levels of nutritional health action. This may be explained that eating behavior is not the only factor affecting prevalence of DM, especially type 2 DM such as the one this study focused on. Other factors such as genetic factor, age, obesity, are more influential in the prevalence of DM (Sedama 2002).

5.2 Exercise health action

The majority of the subjects (53.7%) had inappropriate level of exercise and this aspect of preventive health action needed to be improved. They also had unsuitable exercise behavior. For instance, they did not exercise regularly for at least 30 minutes per time, for 3 times per week. Furthermore, they thought that when they were working they had sufficient exercise because most of the population's occupation was rubber-tapping, which requires walking for hours, and at times they had to run. This is a misconception leading to inappropriate action. Therefore, their exercise behaviors were at an inadequate level and need to be improved. A health education program needs to focus on changing this wrong attitude before the villagers can be persuaded to perform correct exercise health action.

5.3 Stress management health action

The subjects mostly had an appropriate level of stress management. They had many techniques for stress management such as, ventilating their feelings with their close friends, sleeping, watching television, reading a book or doing enjoyable

activities. Most of the population had big family and were close with their relatives. They were happy with their lifestyles. As a result, the stress management health action about DM is not associated with prevalence of DM (p > 0.05).

6. Prevalence of DM

This study found from a blood sugar survey that the prevalence of DM at Wangkeeree Sub-district of Trang Province was at 2.9% of the population, 10 out of 350 subjects. There were more male with DM than female, widowed more than married, employee occupation more than agricultural occupation, no formal education more than other types of education, obesity more than non-obesity. However, the result from self reported questionnaire survey found DM prevalence at Wangkeeree to be 4.3% of the population. And yet, from the literature review, the prevalence of DM at Wangkeeree Sub-district was 1.12% of the populations and prevalence of DM in Thailand was 6% of the population (Vattanayingjarern, 2001). The researcher would like to conclude that the real prevalence of DM at Wangkeeree Sub-district ranges between 4.3 – 6% of population because only 40% of DM registered patients in the study area could control their blood sugar level. Fifteen people reported having diagnosed as DM patients. Among this group with history of DM, 60% of them (9 people) were found to be unable to control their blood sugar. The study also found one new DM case (blood sugar level at 214 ml./dl), which the researcher recommended a confirmation of blood sugar test of the new case.

More sample size should be considered in further study. There are only few Diabetes Mellitus (10 cases), the association between some factors and Diabetes Mellitus are not statistically significant.

Part 3.   Recommendations

The findings from this study provide considerations for health personal as follows;

1. From the findings, most of the people living in Wangkeeree sub-district had appropriate overall preventive health action. However, the results showed that a small percentage of the respondents had appropriate preventive health action in exercise. In addition, some people had misconception about pulling or lifting heavy object while at work. They believed these actions decrease blood sugar level. Moreover, they did not know that appropriate exercise should be performed continuously for 30-45 minutes/session, three to four times a week. These actions are effective in lowering blood sugar levels and improving cardiac functions.

In addition to providing the population with accurate knowledge, health personnel should consider altering people's attitude about exercise, and seriously promote exercise to population. They should add an exercise program for the population at the health center for one hour/session on alternative days (for example, Monday-Wednesday-Friday). Consequently, the population will have regular exercise and motivation to perform exercise because they would have friends of similar age to join with them. This would lead to enjoyment without boredom.

2. Most of the people in the community already have appropriate knowledge but they do not have appropriate behavior. The health personnel must change the strategy of health promotion to change people's health behavior such as focusing on training and practices.

3. About eating behavior, the study found that most of the people practice appropriate nutritional health action. The health personnel must try to sustain this positive finding. Amidst the introduction of western food and western lifestyle which is known to be harmful to health, it is more challenging now than before to persuade the people to adhere to cultural food selection.

Recommendations for future studies

The following research is recommended:

1. A similar study at other district or at the provincial level is possible.

2. More time should be spent on colleting behavioral data, which will lead to a more accurate information.

3. To investigate in-depth each aspect of knowledge, attitude, and preventive health action related to prevalence of diabetes mellitus in the population, in order to search for the cause of the inappropriate preventive health action.

4. To investigate knowledge, attitude, preventive health action, and prevalence of diabetes mellitus in the population in different groups of the population; such as, the population in each region of Thailand. In addition, the research tool must be developed with more precision. This will lead to a better understanding the knowledge, attitude, preventive health action, and prevalence of diabetes mellitus in the population.