

## **CHAPTER IV**

### **DISCUSSION AND CONCLUSION**

#### **4.1 Discussion**

This study provides evidence that type 2 diabetes can be prevented by changes in the lifestyles of both women and men at high risk for the disease. Which should screen the group that have multiple risk factors in order to get best results, however, the constraint is that the persons preserve their right to decide whether they would want to be screened or not. There were a total of 49 participants, most of which were females had BMI greater than 25 and had very minimal exercise.

Throughout the period of doing activities together of 5 months, staff tried to put stress on simple but necessary knowledge for participants in order that they might have better understanding. The topics were reviewed again after the training to serve as the reminders. After the first 3 months passed, the results were found to indicate that the program had a significant positive effect on participants' knowledge.

The generating point of behaviors was the commitment made in planning together that extended to the change of behaviors until they become parts of daily routines. The perception of health status and perceived risk of developing diabetes, having self-confidence and awareness about problems and obstacles, had made participants to prepare and overcome all obstacles to come and join activities. They had

readiness to take care of their health and prevent themselves from diabetes reflected in changes of behaviors from refusing to come because of the reason given as no leisure time to regular attendance after participating in the project (Pender, 1996). It is important for staff to educate and encourage them to have activities and join them regularly in such activities in order to create reliability and motivation for their further practice.

The perception about the advantage or benefits of disease prevention that participants had in common was about the food or “diet”. The issue of diet control was hard for them due to environment in family and local culture related to food habits. People of family in rural area usually have meals together and the food must be prepared to satisfy the tastes of every one in the family. Therefore, the food cannot be prepared specifically for one person. Quite a few studies have failed to change food habits and behaviors of people (Srikes, 1996, Yaowares, 2000, Diabetes prevention program, 2002). It was quite interesting that in the practicing sessions of preparing demonstrating foods as a group, the participants were able to prepare food correctly and appropriately. They knew how to choose the diet having vegetables and fruits as ingredients, how to avoid high-fat diet and all the sweets. The weak point of this program is that members of participants could not be monitored individually on their daily actual food intakes at home.

In spite of the fact that there is no confirmed evidence to illustrate the exactly degree of diet control that participants undertook, after 5 months of activities, their body weights were reduced by the average of  $1.8 \pm 2.09$  Kg (mean  $\pm$  sd). This was

found among persons in both obesity and non-obesity groups, totaling 42 persons (85.7%). The averaged values of blood pressure, cholesterol and FBS also declined. In comparison, there was a study in USA monitoring the group of people at-risk for 3.2 (three point two) years. The study limited the amount of fat in diet to be lesser than 30% of energy used; saturated fat lesser than 10 % of energy used; increase vegetables and fruits by at least 15 gm/1000 Kcal/day, and had them exercise at least 30 minutes/day. The averaged body weight was reduced by  $3.5 \pm 5.5$  Kg (DPP Group, 2002). The results from previous studies in Sweden and China also provide evidence that changes in lifestyle are effective in preventing diabetes. There was a 5-year protocol, consisting of dietary treatment and / or increase of physical activities or training, together with annual check ups, which was completed by 90% of subject. It revealed the reduction of the body weight by 2.3 –3.7 %, and the mean of 6- year follow-up of blood pressure, lipids, and hyperinsulinemia were also reduced (Eriksson KF, Lindgarde F, 1991). If indirect evaluation is applied, unless the project participants control the diets in their daily living simultaneously with the exercise, they could not reduce the body weight successfully.

Participating in this project, participants had more exercises. Basing on the checklist throughout the period of 3 months, there were 39 participants who came to join the group exercise at least 3 times a week. Only one participant who did not come for exercise at all because her mother was immediately sick. She could not leave the mother and join the group exercise as scheduled. The rest of participants were able to come. When they could not, they gave the reason that they did not come back from work in time for the exercise so they exercised at home, or they were occupied with business. The most important fact was that they showed willingness to continue

participating in activities regardless of the availability of supporting budgets. Basing on observations, everybody was looked happy during the exercises. They chatted with each other before leaving for home with happiness. From the result of processed data, all participants gave responses that they had pleasures and funs from joining the group and the exercise made them become more active (98%). It is important to note that 95.9% of them believed that diet control and exercise could help preventing diabetes, which is exactly what this program wants. It could be probably stated that this program has reached its satisfactory achievement.

## **4.2 Conclusion**

Primary diabetes prevention is proceeded before the manifestation of the disease. It helps delaying the pathological process that would progress to be the Type 2 diabetes. The important measure is the promotion of health in order to change behaviors of people in the diabetes at-risk group. Intensive lifestyle intervention focusing on a healthy diet and exercise, as well as the promotion of regular physical activities, healthy eating and creating an environment that supports these behaviors are essential to reducing the burden caused by this chronic disease. People who live healthy and avoid behaviors that increase their risk for chronic diseases can expect to have healthier and longer lives.

T2DPP yields the efficiency to increase diabetes-preventing knowledge of target population that they can even change their lives by controlling their daily diets and doing more exercises, which would further reduce the prevalence or delay the incidence of “diabetes” – a problem of responsible areas and a national health concern.