

Thesis Title : Prevention of Type 2 diabetes for High Risk Group in Tambol
Railugthong Phanat Nikhom District Chon Buri
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ABSTRACT

Background

Type 2 diabetes increases its prevalence in persons who have sedentary lifestyle and obesity. It is a serious public health problem worldwide in spite of the fact that type 2 diabetes can be prevented by interventions that have effects on the lifestyle of high-risk persons. A healthy diet and exercise are the mainstays of controlling, which are most modifiable to prevent all risk factors for diabetes

Objective

The objectives of this project were to increase knowledge of diabetes among high-risk groups of people and to encourage high-risk group to have more exercises and diet control.

Methods

Railugthong Health Center, with the joint effort with Phanat Nikhom Hospital, commenced Type 2 Diabetes Prevention Program (T2DPP) in December 2001. The project was aimed to screen persons in the sub-district of Railugthong who aged above 40. Village public health volunteers were trained to use *Diabetes Risk Test* to screen people in community, 441 of which were found to have risk factors for diabetes (which include family history, obesity, a previous history of gestational diabetes, high blood pressure and blood lipid abnormality). A total of 221 persons were screened with blood testing on voluntary basis. Among these, 14 new diabetic cases were identified and

referred to Phanat Nikhom Hospital for treatments. Persons with normal blood test results (FBS <126 mg/dl) were encouraged to participate in Type 2 Diabetes Prevention Program (T2DPP). Of these, 49 persons voluntarily participated in the project (41 females and 8 males). They were trained to acquire knowledge about diabetes and its prevention, advantages of diet control and exercise. Participants had mutual commitment to attend workshops for demonstration of healthy food preparation once a month, have exercise activities every day from Monday to Friday for 5 consecutive months. The evaluation of the project efficiency was carried out using questionnaires to assess participant about their knowledge, perception about benefits and obstacles of the prevention, perception of their self-efficacy, behavior of food habits and exercise. The evaluation also carried out by taking body weight, calculating body mass index (BMI), taking blood pressure and testing for blood sugar, before participation in the project and at 3 months and 5 months thereafter.

Results

A paired t-test showed a significant difference between pre-test and post-test, pre-test and 3-month follow-up on overall knowledge, and on knowledge about cause and prevention. There were significant on knowledge difference of biological diabetes and dietary between pre-test and 3-month follow-up but no significant were found between pre-test and post-test.

Significant difference was not found between the pre-test and post-test results of participants who rated themselves as “poor” to health status. While there was a significant increase in participants’ between the pre-test and post-test on perceived risk

of developing diabetes, (from 73.5% to 91.8%) The participants had statistically significant increase in perceived barrier to prevent diabetes and perceived self-efficacy. At the time, however, reduction in mean perceived benefit of prevention was not significant.

At the end of 5 months, the participants had statistically significant reduction of systolic blood pressure, mean body weight for all participants, normal weight, and overweight groups (from $P < 0.05$ to $P < 0.001$), mean BMI (from 26.8 to 26.1), and the Fasting blood sugar mean decreased from 92.4 to 91.9 mg/dl. Upon completion of the project, none of participants were found to have developed diabetes. Participants were asked to respond about health related quality of life that they gained from participating in the project, in the dimensions of physical, mental, emotional, social and spiritual. The top 5 quality of life responded include pleasure and funs, being active and fresh, having chances to socialize with friends in the group, developing the belief that *exercise* could help preventing diabetes and developing the belief that *diet control* could help preventing diabetes .

Conclusion

Three strategies were used in this program. Firstly, the screening strategy to identify persons at risk of diabetes in the population who were over 40 years of age. Secondly, the referral strategy to refer patients for treatment was adopted. The third strategy used was health promotion strategy to change health behaviors in diet and exercise. The results indicate that the health promotion encouraging people at risks of diabetes to change their behaviors of food habits and exercises are able to improve participants' knowledge and their self-efficacy, and to reduce their risks to develop type 2 diabetes.