Self care activities of patients with Diabetes Mellitus Type 2 in Ho Chi Minh City

Authors: Sofie Svartholm, Elisabeth Nylander

Supervisor: Pranee Lundberg
Examiner: Clara Aarts

Thesis, 15 ECTS credits
2010
Abstract

Self care is very important for patients with diabetes type 2, as it can reduce complications. A proper and functioning self-care requires, clear and relevant information and instructions from the health care givers. **Aim:** The purpose of this study was to investigate the self care activities of patients with diabetes mellitus type 2 in Ho Chi Minh City and compare these between genders. **Research questions:** How do patients with diabetes mellitus type 2, in Ho Chi Minh City, practice self care activities (diet, exercise, blood sugar test, foot care, smoking, medication and self-care recommendation)? Are there any differences between genders concerning these self-care activities? **Method:** A descriptive and comparative cross-section design with a quantitative method was used. Dorothea Orem's theoretical framework was also used. The data was collected at the Department of Endocrinology and the Endocrinology Clinic, Choray hospital, in Ho Chi Minh City, Vietnam. It was 100 participants who answered a questionnaire about their diabetes self-care activities. **Results:** Most of the participants had a good self-care of their diabetes type 2. A majority of the participants had got several self-care recommendations from their health-care givers concerning diet, exercise, medication and blood-glucose control. It was a significant difference between gender in favour for the male gender concerning the statements high fat food, participating in 30 minutes of exercise, check inside the shoes, dry between toes, counselling about stop smoking, tried herbal medicine as medication. **Conclusion:** The diabetes type 2 patients in Ho Chi Minh City need to get more information about self-care concerning blood-glucose, diet and exercise. Both genders need to adopt a healthy lifestyle into their daily life to reduce the risk of developing diabetes complications.

Key words: Diabetes Mellitus type 2, Self Care, Ho Chi Minh City, Genders.
Sammanfattning

Egenvården är mycket viktig för patienter med diabetes typ 2, eftersom den kan minska komplikationer. En optimal och väl fungerande egenvård kräver tydlig och relevant information och instruktioner från vårdpersonalen. **Syfte:** Syftet med denna studie är att undersöka egenvårdsaktiviteter hos patienter med diabetes mellitus typ 2 i Ho Chi Minh City och jämföra dessa mellan kön. **Frågeställningar:** Hur utför patienter med diabetes mellitus typ 2 i Ho Chi Minh City sina egenvårds aktiviteter (kost, motion, blodsocker test, fotvård, rökning, läkemedel och egenvårds rekommendationer)? Finns det någon skillnad mellan könen beträffande dessa egenvårdsaktiviteter? **Metod:** En beskrivande och jämförande tvärsnitts studie med kvantitativ metod har använts. Dorothea Orems egenvårdsteori har även använts. Data samlades in vid Institutionen för Endokrinologi och endokrinologi kliniken på Choray hospital, i Ho Chi Minh City, Vietnam. Det var 100 deltagare som besvarade ett frågeformulär med frågor om diabetes egenvårds aktiviteter. **Resultat:** De flesta deltagare hade en god egenvård av sin diabetes typ 2. En majoritet av deltagarna hade fått flera egenvårds rekommendationer från sin vårdgivare om kost, motion och medicinering. Det var en signifikant skillnad mellan könen med fördel för männen angående påståendena gällande fettrik mat, deltagande i 30 minuters träning, kontrollera insidan av skorna, torka mellan tårna, rådgivning om att sluta röka samt provat naturläkemedel som medicinering. **Slutsats:** Diabetes typ 2 patienter i Ho Chi Minh City behöver få mer information om egenvård av blodglukos, mat och fysisk träning. Båda könen behöver få en hälsosammare livsstil i sin vardag för att minska risken för komplikationer.

Nyckelord: Diabetes Mellitus typ 2, Egenvård, Ho Chi Minh City, Kön.
Contents
1. Introduction .................................................................................................................................................. 1
  1.1 Diabetes Mellitus type 2 .................................................................................................................. 1
  1.2 Diabetes Type 2 Prevalence .............................................................................................................. 1
  1.3 Risk factors ........................................................................................................................................ 2
  1.4 Diabetes complications .................................................................................................................... 2
  1.5 Self-care ......................................................................................................................................... 3
    1.5.1 Diet .......................................................................................................................................... 3
    1.5.2 Exercise ................................................................................................................................. 4
    1.5.3 Foot Care ............................................................................................................................... 4
    1.5.4 Self-monitoring of blood glucose ......................................................................................... 5
    1.5.5 Treatment ............................................................................................................................... 6
  1.6 Health care providers ....................................................................................................................... 6
2. Theoretical framework ............................................................................................................................ 7
3. Rationale of research ............................................................................................................................. 8
4. Aim ....................................................................................................................................................... 8
5. Research questions ................................................................................................................................... 8
6. Methods ................................................................................................................................................. 8
  6.1 Design ........................................................................................................................................... 8
  6.2 Setting .......................................................................................................................................... 8
  6.3 Procedure ...................................................................................................................................... 9
  6.4 Sample ......................................................................................................................................... 9
  6.5 Instrument .................................................................................................................................... 9
  6.6 Analysis of data ............................................................................................................................ 10
7. Ethical considerations ............................................................................................................................ 10
8. Results .................................................................................................................................................. 11
  8.1 Demographic Characteristics ......................................................................................................... 11
  8.2 Self-care activities .......................................................................................................................... 13
    8.2.1 Diet ........................................................................................................................................ 13
    8.2.2 Exercise ............................................................................................................................... 14
    8.2.3 Blood glucose ....................................................................................................................... 14
    8.2.4 Foot-care ............................................................................................................................. 16
    8.2.5 Smoking ............................................................................................................................... 16
    8.2.6 Medication ............................................................................................................................ 17
  8.3 Self-care recommendations ............................................................................................................. 18
    8.3.1 Diet ....................................................................................................................................... 18
    8.3.2 Exercise ............................................................................................................................... 19
    8.3.3 Medication and Blood glucose control recommendations ..................................................... 20
9. Discussion .............................................................................................................................................. 21
  9.1 Discussion of results ...................................................................................................................... 22
  9.2 Method Discussion ......................................................................................................................... 26
  9.3 Conclusions ................................................................................................................................... 28
  9.4 Clinical Implications ....................................................................................................................... 28
  9.5 Further research study ..................................................................................................................... 28
  9.6 Acknowledgement .......................................................................................................................... 29
10. References ............................................................................................................................................ 30

Appendix 1 and Appendix 2 as attached files as PDF.
1. Introduction

1.1 Diabetes Mellitus type 2
Diabetes mellitus type 2 is the most common type of diabetes in the world; approximately 90% of the diabetes patients have this type of diabetes. It is a systemic disease that is chronic and severe, and is diagnosed by elevated plasma glucose (Quittenbaum, 2007). The disease occurs when the body cannot use the insulin it produces effectively, or when the pancreas cannot produce enough insulin (World Health Organization [WHO], 2009). The disease is difficult to detect as some patients does not have any symptoms or the symptoms develop very slowly. Symptoms that can occur is increased thirst, urination, physically and mentally fatigue (Magnusson, 2009). The patient can be diagnosed by three features, fasting blood glucose above 7.0 mmol/l at two times, non-fasting glucose over 12,2mmol/l and the same value after an “oral glucose load” test (Fass, 2010). Despite the research and treatment for people with diabetes mellitus, people still get damage, mainly in the nervous system, kidneys, blood vessels and eyes (Quittenbaum, 2007).

1.2 Diabetes Type 2 Prevalence
The prevalence of the non-communicable disease diabetes type 2 in the world in 2000 was 171 million (2.8%) but the number is predicted to be 366 million (4.4%) in 2030. The reason for this increased prevalence in the world is the growing population of people over 65 years old, physical inactivity, urbanization and obesity (Wild, Roglic, Green, Sicree & King, 2004). This disease is most common in Europe and the USA, but large increases have been expected in the developing countries, especially in South-East Asia (Quittenbaum, 2007). The prevalence of diabetes mellitus in the Asia-Pacific region in the year 2000 was approximately 30 million people. The prevalence rates have been predicted to rise during the next upcoming years, approximately 50 million people in 2025. The increasing trend is specific in type 2 diabetes. This is closely associated with urbanization, large population size, genetic predisposition, westernisation, changing of life style and mechanisation. The increase in diabetes is also related to dietary habits and physical inactivity. The long term complications of type 2 diabetes may increasingly devastate the health care system in developing countries if the governments do not prioritise this emerging disease (Cockram, 2000).

In the largest city in Vietnam has diabetes mellitus type 2 increased with 176 % during the past twenty years. The prevalence was in 2004 3.8% in Ho Chi Minh City. The lifestyle and socio-economy has changed and that has affected the disease pattern in the population. Cardiovascular diseases, obesity and hypertension have increased during the same time as diabetes mellitus type 2. The prevalence is still not as high as in other Asia-Pacific countries or as in the United States (Duc
Son et al., 2004). Tomisaka et al. (2002) found that Vietnamese women had a higher risk to develop diabetes mellitus type 2 than women in other Asian countries. The abdominal obesity in overweight and obese people was higher in the Vietnamese female population, and the carbohydrate intake was higher. On the other hand had the Vietnamese women a lower fat intake (13 %) and a higher level of physical activity. To decrease the diabetes type 2 development in the country it is therefore important to change the new western dietary habits according to Duc Son et al. (2004). Their study also showed that the people in Ho Chi Min City with a high level of education had a lower prevalence of diabetes type 2 when compared to people with low level of education. There was no significant difference between rural and urban areas in prevalence of diabetes type 2.

1.3. Risk factors
Type 2 diabetes is a common disease especially among elderly, but it is difficult to determine whether diabetes is due to increased age, less activity or increased body weight (Quittenbaum, 2007). Most people with type 2 diabetes are obese or overweight. This is one of the reasons why the body cells lose their sensitivity to insulin (Svenska diabetesförbundet, 2006; Nelson, Reiber, Boyko, 2002). Other risk factors are heredity, smoking, increased stress and unhealthy eating habits (Quittenbaum, 2007). The risk factor smoking, both light and heavy smoking, has shown to significantly increase the risk of type 2 diabetes when compared to non-smokers among men (Wannamethee, Shaper & Perry, 2001). Physical inactivity is another risk factor for increased risk of diabetes mellitus type 2, where factors as increased age and low income increase the risk of physical inactivity (Quittenbaum, 2007; Nelson, Reiber & Boyko, 2002).

1.4 Diabetes complications
Diabetes mellitus type 2 is a disease where many complications can occur and therefore is the mortality among these patients higher. The risk factors for mortality are male sex, older age, lower income, smoking, lower BMI (26-30kg/m2), macro vascular disease and nephropathy (McEwen et al., 2007). The complications of diabetes type 2 are hypoglycaemia, ketoacidos, nephropathy, neuropati, diabetic foot ulcers, macrovascular comorbidities, dyslipidaemia, hypertension, metabolic syndrome, retinopathy and blindness (International Diabetes Institute, 2005). Late onset diabetes is an independent risk to diabetic foot, cataract and macro vascular complications, but advance eye complications are more common in early onset diabetes patients (Chuang et al. 2005). Hypoglycaemia is a serious complication and occurs at low plasma glucose. This is especially common among elderly as they are more sensitive for low plasma glucose. Common symptoms for hypoglycaemia are pallor, fatigue, aggressive, tremulousness, anxiety and hunger. In worst cases if levels are below 3.5 mmol/l, it can lead to unconsciousness and diabetes coma. The reason to the low level of plasma glucose is the high level of insulin in the blood, which helps the glucose enter
Another common diabetes complication is diabetes foot ulcers. This problem is caused by neuropati, which means that peripheral nervous system is damaged by atrophy in the nervous system and blood vessel or metabolic changes in the cells. The problem in the nervous system can lead to sensory loss and makes the patient unable to feel wounds or ulcers (Quittenbaum, 2007). The risk of getting diabetic foot ulcer is 68 out of 1000 people with diabetes, while 37 patients get infections, six having to amputate and eight having to make a lower extremity bypass (Laverty, Armstrong, Wunderlich, Tredwell & Boulton, 2003). The risk factors for failing a neuropathic foot ulcer to heal are the size, the grade and the age of the wound. Patients with this complication have a higher mortality than diabetes patients without foot ulcers (Margolis, Allan-Taylor, Hoffstad & Berlin, 2002).

1.5 Self-care
Most of the risk factors can be prevented by lifestyle changes for people at high risk. These changes in lifestyle include weight loss for people with obesity, healthy food habits, regular exercise and regular meetings with the health care providers (Tuomiletho et al. 2001). The health care providers are also important for people who already have type 2 diabetes, as they are the main source of information. The health care provider’s education for people with diabetes is important for their self-care of the disease. If the information is not clear, the patient will miss out important facts, forget it or may not understand it, which will cause lack of self-care or ignorance of the importance of a healthy lifestyle to prevent diabetes complications (Tham, Ong, Tan & How, 2004).

1.5.1 Diet
Overweight people with diabetes type 2 are recommended to lose 5-10% of their weight, and reduce the intake of sugar, fat, alcohol and salt. The international diabetes institute (2005) has general nutrition recommendations for patients with diabetes type 2. Of the total energy intake, 50-55 % should come from carbohydrates and 30 % or less from fat. Fruits, vegetables, legumes and whole grain products are an important part of the carbohydrate intake as they have beneficial effects on blood fats and blood sugar control (Nishida, Martinez & Mann, 2007). The protein intake should be 15-20 % of the total intake and the salt intake should be less than 6g per day. No more than 1-2 standard drinks alcohol per day is recommended since alcohol can cause hypoglycaemia (Connor, Annan & Bunn, 2003).

An accurate food planning will help the diabetes patient to maintain a stable blood glucose level, reduce the cardiovascular risk factors and help the patient to get a well balanced diet. Monitoring of
metabolic parameters as HbA1c, blood glucose, control of blood pressure, body weight as well as quality of life are also essential to assess the need for changes in diet therapy (International Diabetes Institute, 2005). Both low and high protein diets decrease fasting glucose, weight, insulin concentrations and total and abdominal fat (Parker, Noakes, Luscombe & Clifton, 2002).

1.5.2 Exercise
Studies has shown that physical activity is a key element in the diabetes type 2 self care as it can help the patient to loose weight, and then also improve the body’s insulin sensitivity and glycaemic control. A weight reduction will make the diabetes patient’s insulin production sufficient again and the blood sugar levels will become more normal (Guerci et al., 2003; Svenska diabetesförbundet, 2006). When performing physical activity it is still though important for diabetes patients to adjust their food intake and medications to avoid hypoglycaemia (International Diabetes Institute, 2005). Blood sugar should therefore be checked before and after workout so that the insulin dose can be adjusted on the basis of planned activity. At low blood sugar before a workout carbohydrate should be consumed before, during and after the workout is done. At normal blood sugar before an activity, carbohydrates should only be consumed during the activity if it will last longer than normal. At high blood sugar before training, testing for the presence of ketone in the urine should be done. The patient should abstain workout if ketone in the urine otherwise it is risk for a further rise of the blood glucose during exercise due to absence of insulin (Praktisk medicin, 2010).

The common health goal is to achieve at least 150 minutes of physical activity every week, and it is been shown that people who have diabetes and exercise regularly have considerably lower mortality rates over 12-14 years. Strength developing activities should therefore be performed at least twice a week, and it is important to adopt other healthy lifestyle habits as well, for example using the stairs instead of the elevator or walking to the shop instead of driving (International Diabetes Institute, 2005). Kirk, Mutrie, MacIntyre & Fisher (2003) showed that exercise consultation increases the physical activity level in people with type 2 diabetes, when compared with patients getting standard exercise leaflets.

1.5.3 Foot Care
Foot complications are common among diabetes type 2 patients. The disease can cause neuropathy, which make the patient unable to feel any blisters or stones in the shoes. The blood circulation can also be reduced to the foot (peripheral vascular disease), which can make it difficult for wounds or ulcers to heal. This complication of non-healing wound can lead to amputations of toes, foot or legs (American College of Foot and Ankle Surgeons, 2009). This can lead to loss of quality of life, physical loss and economical burden in terms of industrial disability and health care loss (Nabuurs-
Franssen, Huijberts, Nieuwenhuijzen Kruseman, Willems & Schaper, 2005; Ragnarson Tennvall & Apelqvist, 2004). This is why it is important that these patients get optimal foot care and also intensive glycemic control. It helps to reduce the diabetic foot complications, improves survival and it is also cost-effective. A higher level of foot ulcer prevention will also obtain great health benefits (Ortegon, Redekop & Wilhelmus Niesse, 2004). The patients need to inspect their feet daily, to see if there are any blisters, redness, cuts, nail problems or swelling. It is also important to wash the feet daily in lukewarm water with a sponge or washcloth and dry the feet carefully, especially between the toes (American College of Foot and Ankle Surgeons, 2009). The daily foot wash should be supplemented with a foot bath about once a week. After washing it is important to moisturize the feet, but not between the toes, which can cause fungal infection (Bäckström et al. 2009).

The patients have to cut their nails when needed. The nails should not be too long, which can cause wounds, neither too short, which make the nail grow inwards. They have to be cut the nails straight and file the edges. If there are any calluses or corns, they have to go to their foot specialist to get professional help. The diabetes patients have to change socks everyday to dry and clean socks that fits good, not to elastic, thick or bulky. The feet have to be warm during night and socks could be a solution if they are freezing during night time. Warm socks and shoes during winter and rain is necessary. Before the diabetes patients put on their shoes, they have to look inside their shoes, to be able to see if there are any stones or any other objects in the shoes and see that the shoes are not broken. The diabetes patients should not walk barefoot anywhere as they can step on something and get a cut or scratch. They should wear shoes or slippers instead. It is necessary to go to the foot doctor regularly to prevent small sores develop into large ulcers. Other preventive measures to not develop foot ulcers are to have control over the blood glucose and stop smoking (American College of Foot and Ankle Surgeons, 2009).

1.5.4 Self-monitoring of blood glucose
Some patients with type 2 diabetes self monitor their blood glucose levels regularly at home, which is associated with a better improvement of the metabolic control (Guerci et al., 2003; Benjamin, 2002). It is also important for people with diabetes type 2 with regular follow-ups at healthcare settings, so they can evaluate the self care, by taking blood samples for blood glucose and HbA1c. They also discuss the importance of a good self care to prevent complications (Quittenbaum, 2007). The regular follow-ups and measuring of HbA1c should be done every 3-6 month. If a patient is self-monitoring his/her glucose level it is also important to make sure the patient knows how the equipment works and how to interpret the results. The self monitoring of glucose levels can be done with urine or blood tests, but blood testing is optimal. How frequent monitoring will be done
depends on the available resources in the country concerned and on the available resources for the individual (International Diabetes Institute, 2005). Self-monitoring of blood glucose levels is essential to improve the quality and safety of the treatment for patients with diabetes type 2 who are treated with insulin. The self-monitoring should be done before each meal and at bedtime if possible (Guerci, et al. 2003), and blood glucose should be checked at least 4 times per day (Benjamin, 2002). This will help to prevent hypoglycaemia and the patient can have control over his/her glucose levels.

1.5.5 Treatment
Diabetes Mellitus type 2 is a disease that needs to be treated because of the high level of glucoses in the blood. The hyperglycaemia is caused by impaired insulin secretion and insulin resistance in the body. The treatment of diabetes type 2 is at first lifestyle changes with healthy nutrition habits, increased physical activity and education level. If the patient has very high blood glucose level or very symptomatic, the patient needs drug treatment immediately (International Diabetes Institute, 2005). Diabetes Mellitus type 2 can in that case be pharmacological treated with two different kind of oral medications. Each medication is developed to one of these abnormalities and a combination of these medical treatments can normalize the glucose level. If the oral therapy does not work is insulin the only way to get control over the hyperglycaemia. Insulin will only be used if HbA1c is over 6.5 % after maximum oral therapy. Insulin should be used with a combination with oral therapy to reduce the risk of hypoglycaemia and weight gain (Garber, Larsen, Schneider, Piper & Henry, 2002).

1.6 Health care providers
Diabetes is best managed by a team-based approach, which includes both the patient and the healthcare providers. This is particularly important in rural areas, where access to doctors can be very limited (International Diabetes Institute, 2005). Rubin, Peyrot & Siminbrio (2006) found that a good relationship and easy access to health care providers is associated with improved general well-being and can help to resolve diabetes-related distress for patients with type 2 diabetes mellitus. The relation between the patient and the healthcare provider is also associated with better regimen adherence, i.e. a good relationship and a good teamwork is more important than access to the healthcare providers to improve regimen adherence.

The health care providers main task is to educate the patient so that the patient has knowledge about the nature of the disorder, symptoms of diabetes, risk of complications, targets of the treatment, importance of regular exercise, meal planning, interaction of physical activity, food intake, insulin, oral hypoglycaemic drugs or other drugs. The patient should also have knowledge about self-
monitoring of blood glucose, the meaning of the results and what needs to be done depending on the results. It is also very important that the patient knows how to cope with symptoms as hypoglycaemia, stress and illness (International Diabetes Institute, 2005).

Diabetic health education with general diabetic information and nutrition recommendations is essential for patients with diabetes type 2 for a successful outcome (Chen, Wu, Jap, Chen & Lin, 2008). Disease management programs or strategies are associated with better diabetes care but not in the long run of medication management. A better focus on direct measurement of medication management can be a way to improve the effectiveness of the programs (Mangione et al. 2006).

2. Theoretical framework
Dorothea E. Orem’s theories of self-care and self-care deficit were used as the theoretical framework of this study. The theory about self care is based on the fact that every adult has more or less full capacity to act in order to maintain their health and treat themselves in case of sickness or injury (Nationalencyklopedin,[NE], 2010). This capacity may vary depending on the individual knowledge, education, age, experience of life, economy, culture and health status. The patient needs mental and practical skills and also education and motivation to be able to organize and perform their self care. These skills can develop through instructions from health care professionals and also spontaneous by practising self care (Kirkevold, 2000).

The nursing goals are as far as possible to help the patient to become independent in his or her self-care. Nursing care is according to Dorothea needed when the patient is affected from limitations that do not allow them to practice or meet their self-care needs. These limitations can occur because of conditions, as for example diabetes. The care should be conducted in such way that the individual or his relatives can get help as far as possible to regain the patient’s self-care capacity (Kirkevold, 2000). Therefore, this theoretical framework was used to investigate if the patients had capacity to control their diabetes and maintain their health.
3. Rationale of research
In Ho Chi Minh City diabetes type 2 has become more common and it is a fast growing disease. Development, industrialization, and shift of dietary habits are important determinants of the increased prevalence of the disease in the city (Duc Son et al., 2004). Self-care is the most important treatment of the disease. The self care is very important in many aspects, both for the individual’s well-being and also from a socioeconomic perspective. Proper and functioning of self-care requires clear and relevant information and instructions from the health care providers. Therefore informing the patient is one of the most important assignments for the nurse, which means the nurse has a great responsibility for a well functioning self care (Chen et al., 2008). Lack of self-care can lead to various complications and increase the patients suffering of the disease (Quittenbaum, 2007). Little has been studied about diabetes in Vietnam and self-care among patients. To prevent the complications it is important to find out how patients with type 2 diabetes in Ho Chi Minh City practise self-care.

4. Aim
The purpose of this study was to investigate the self care activities of patients with diabetes mellitus type 2 in Ho Chi Minh City and compare these between male and female gender.

5. Research questions
- How do patients with diabetes mellitus type 2, in Ho Chi Minh City, practice self care activities (diet, exercise, blood sugar test, foot care, smoking, medication and self-care recommendation)?
- Are there any difference between gender concerning to these self-care activities?

6. Methods

6.1 Design
This study was a descriptive and comparative cross-section design with a quantitative method.

6.2 Setting
The data was collected during two weeks in spring 2010 at the Department of Endocrinology and at the Endocrinology Clinic of the biggest hospital in South East Asia, Choray Hospital in Ho Chi Minh City, Vietnam. In 2009 the Endocrinology inpatient ward had 2146 patients, 80-90% of them had the diagnose diabetes. The ward has 60 beds and the patients were hospitalized an average of 2 weeks. The outpatient Endocrinology Clinic had during the same year 51763 patients, 65% of them were diabetes patients. The most common reasons to admit the hospital were acute complications of diabetes mellitus and infections.
6.3 Procedure
The project was the collaboration between the Faculty of Nursing and Medical Technology, University of Medicine and Pharmacy in Ho Chi Minh City, Vietnam, and the Department of Public Health and Caring Sciences, Uppsala University, Sweden within Linnaeus-Palme Exchange Programme.

Mrs. Nguyen Thi Suong, the Head of the Department of Nursing, contacted the Head of the Endocrinology Department and the Endocrinology Clinic at Choray Hospital for permission to carry out the study. The authors distributed the questionnaire (Appendix 1) with help from a Vietnamese master student, Mr Tran Trinh Quoc Viet, to the participants at the Endocrinology Department and the Endocrinology clinic. Mr Viet was studying at the Master program to become a nurse teacher at University of Medicine and Pharmacy, and was employed by Mrs. Nguyen Thi Suong, Head of the Department of Nursing, to help the author to distribute the questionnaire due to lack of communication between the authors and the participants. Mr Viet was employed to give out all the questionnaires to the participants and inform them about the study and their right to participate. The participants were asked to fill in the questionnaire and hand it back before leaving the ward, or Mr Viet helped the participants to fill out the questionnaire if needed. Some of the participants for also helped by the relatives to fill in the questionnaire. Mr Viet translated the answers of the open questions into English.

6.4 Sample
A purposive convenient sample was used for selecting the participants. In this study were 100 participants asked to participate.

The inclusion criteria were:
- Men and women diagnosed with diabetes type 2.
- Adults over 18 years.
- Ability to write and read or can be helped to fill in the questionnaire.
- Are willing to participate.
- Are adequate.

6.5 Instrument
A questionnaire in English version has been developed by Dr. Pranee Lundberg, Associate Professor at the Department of Public Health and Caring Sciences, Uppsala University (Appendix 1). This questionnaire was based on a study of Toobert, Hampson and Glasgow (2000). The contents of the questionnaire were adjusted to Vietnamese culture and translated by Mrs. Doan Thi Anh Le, who
was an exchange teacher, after discussion. The questionnaire was tested forward and backward to verify that the language was correct but the content was not pretested (Appendix 2).

The questionnaires have 41 questions divided into two parts: Demographic information and Diabetes Self Care Activity Measurement. The first part of the questionnaire was the participants background; gender, age, marital status, education, occupation, family situation, economy, religion, how long they have had diabetes and heredity of diabetes. The participant could chose between predetermined specific options (Appendix 1, questions A1-A13), i.e. multiple choice questions. The second part of the questionnaire was a Diabetes Self Care Activity Measurement which included Diet, Exercise, Blood Sugar Testing, Foot Care, Smoking, Medications and Self-Care Recommendations (Appendix 1, question B1.1- B7.4).

The questions asked the participant about his/her diabetes self-care activities during the past 7 days. The questions were answered by using a scale from 0-7, which would provide answers to how many days they had carried out the required self-care activity. Some of the questions had multiple choice answers, where the patients could chose between predetermined answers. There are several questions where there was an option where the patient could answer “other” if none of the multiple choice answers fitted, and the patient could write another answer. There were also questions with only dichotomises answers as yes and no. It was one open question about blood glucose, where there were no options, and the patient had to write an answer.

6.6 Analysis of data
The statistic was analysed in SPSS 18, The Statistical Package of Social Science. The data was analysed using means, numbers and percentage. A Chi-square test was used when the answers were on a nominal scale, as “Yes and No”. Mann Whitney test was used for ordinal scale i.e. non parametric variables. Independent T-test was used in ratio scales to compare means of parametric variables between women and men. The scale between 0-7 was converted into different categories, where 0 was converted into “not at all”, 1 to “seldom”, 2 to “little”, 3 to “sometimes”, 4 to “more than sometimes” and 5 to “quite often” and 6 to “often” and 7 to “very often”. A significant difference between men and women in both statistical analysis had a p-value 0.05 or <0.05. The open questions were presented in percentage. Missing data was excluded from the data analysis. The result was represented by using tables.
7. Ethical considerations

The questionnaire was sent to the Head of the Endocrinology Department and the Endocrinology Clinic at Choray Hospital for approval before data collection. The participants were informed about the study and their rights to participate in the study. They were anonymous and voluntarily to participate and the data was analysed confidently. The authors used the ICN Code of Ethics (2006) for nurses for ethical considerations concerning respect of human rights and also respect for customs, values and beliefs for the individual, family and community.

8. Results

8.1 Demographic Characteristics

The results of demographic information were shown in Table 1a and b. The total number of patients participated in the study was 100; 49 men (49%) and 51 women (51%). The age of the participants was between 25-85 years and the mean age was 59 years old (SD 12.8). The mean age for men was 57.5 years (SD 12.1) while the mean age of the women was 60.4 years (SD 13.4). Of those participating, 90% had had diabetes type 2 for 15 years or less, and of the total number of participants 50% had had diabetes for five years or less. Most participants (79%) had no history of diabetes in the family.

There was a significant difference between gender concerning education (p= 0.019). All men had some levels of education while 3.9% of women had not attended school at all. Reason for not attending school was sickness and no money for school. The number who had a higher level of education was 16.3% for men when compared to 2% for women.

There was a significant difference between gender concerning occupation (p= 0.00). The most common occupations among the women were house duty, 47.8% and farmer 15.6%, while among men the most common occupation were farmer 34.7% and worker 18.4%.
Tabel 1a. Demographics of Diabetes type 2 patients in Ho Chi Minh City (n = 100).

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>P-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
<td></td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Age 25-39</td>
<td>99</td>
<td>99.0</td>
<td>59.0±12.8</td>
<td>48</td>
<td>98.0</td>
</tr>
<tr>
<td>Age 40-54</td>
<td>4</td>
<td>4.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Age 55-69</td>
<td>32</td>
<td>32.0</td>
<td></td>
<td>22</td>
<td>44.9</td>
</tr>
<tr>
<td>Age 70-85</td>
<td>41</td>
<td>41.0</td>
<td></td>
<td>15</td>
<td>30.6</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>98</td>
<td>98.0</td>
<td></td>
<td>49</td>
<td>100.0</td>
</tr>
<tr>
<td>Married</td>
<td>2</td>
<td>2.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Widowed</td>
<td>4</td>
<td>4.0</td>
<td></td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>99</td>
<td>99.0</td>
<td></td>
<td>49</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary school</td>
<td>44</td>
<td>44.0</td>
<td></td>
<td>16</td>
<td>32.7</td>
</tr>
<tr>
<td>High School</td>
<td>23</td>
<td>23.0</td>
<td></td>
<td>13</td>
<td>26.5</td>
</tr>
<tr>
<td>Certificate</td>
<td>21</td>
<td>21.0</td>
<td></td>
<td>12</td>
<td>24.5</td>
</tr>
<tr>
<td>Bachelor</td>
<td>6</td>
<td>6.0</td>
<td></td>
<td>5</td>
<td>10.2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2.0</td>
<td></td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker</td>
<td>96</td>
<td>96.0</td>
<td></td>
<td>46</td>
<td>93.4</td>
</tr>
<tr>
<td>Government officer</td>
<td>12</td>
<td>12.0</td>
<td></td>
<td>9</td>
<td>18.4</td>
</tr>
<tr>
<td>Technician</td>
<td>8</td>
<td>8.0</td>
<td></td>
<td>5</td>
<td>10.2</td>
</tr>
<tr>
<td>Merchant</td>
<td>3</td>
<td>3.0</td>
<td></td>
<td>2</td>
<td>4.1</td>
</tr>
<tr>
<td>Farmer</td>
<td>11</td>
<td>11.0</td>
<td></td>
<td>7</td>
<td>14.3</td>
</tr>
<tr>
<td>Gardener</td>
<td>25</td>
<td>25.0</td>
<td></td>
<td>17</td>
<td>34.7</td>
</tr>
<tr>
<td>House duty</td>
<td>6</td>
<td>6.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
<td>25.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>4.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Yes</td>
<td>95</td>
<td>95.0</td>
<td></td>
<td>48</td>
<td>98.0</td>
</tr>
<tr>
<td>If Yes, number of children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-two</td>
<td>24</td>
<td>24.0</td>
<td></td>
<td>13</td>
<td>26.5</td>
</tr>
<tr>
<td>Three-Four</td>
<td>33</td>
<td>33.0</td>
<td></td>
<td>18</td>
<td>36.7</td>
</tr>
<tr>
<td>Five-Six</td>
<td>17</td>
<td>17.0</td>
<td></td>
<td>7</td>
<td>8.2</td>
</tr>
<tr>
<td>Seven or more</td>
<td>20</td>
<td>20.0</td>
<td></td>
<td>9</td>
<td>18.4</td>
</tr>
<tr>
<td>Children living at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Children</td>
<td>13</td>
<td>13.0</td>
<td></td>
<td>8</td>
<td>16.3</td>
</tr>
<tr>
<td>Less than 4 children</td>
<td>66</td>
<td>66.0</td>
<td></td>
<td>33</td>
<td>67.3</td>
</tr>
<tr>
<td>4 or more children</td>
<td>7</td>
<td>7.0</td>
<td></td>
<td>3</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Note: significant difference: p ≤ 0.05
Tabel 1b. Demographics of Diabetes type 2 patients in Ho Chi Minh City (n = 100).

<table>
<thead>
<tr>
<th>Demographic characteristic</th>
<th>Total</th>
<th></th>
<th></th>
<th>Men</th>
<th></th>
<th></th>
<th>P-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of people living in household</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>85</td>
<td>85.0</td>
<td></td>
<td>43</td>
<td>87.8</td>
<td></td>
<td>0.457</td>
<td>NS</td>
</tr>
<tr>
<td>Less than 4 people</td>
<td>36</td>
<td>36.0</td>
<td></td>
<td>20</td>
<td>40.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 or more people</td>
<td>47</td>
<td>47.0</td>
<td></td>
<td>22</td>
<td>44.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enough</td>
<td>97</td>
<td>97.0</td>
<td></td>
<td>49</td>
<td>100.1</td>
<td></td>
<td>0.696</td>
<td>NS</td>
</tr>
<tr>
<td>Barely enough</td>
<td>67</td>
<td>67.0</td>
<td></td>
<td>32</td>
<td>65.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totally inadequate</td>
<td>9</td>
<td>9.0</td>
<td></td>
<td>5</td>
<td>10.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>95</td>
<td>95.0</td>
<td></td>
<td>46</td>
<td>93.9</td>
<td></td>
<td>0.625</td>
<td>NS</td>
</tr>
<tr>
<td>Muslim</td>
<td>25</td>
<td>25.0</td>
<td></td>
<td>16</td>
<td>32.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buddhism</td>
<td>49</td>
<td>49.0</td>
<td></td>
<td>18</td>
<td>36.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional religion</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>19.0</td>
<td></td>
<td>11</td>
<td>22.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years living with diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.097</td>
<td>NS</td>
</tr>
<tr>
<td>0-5</td>
<td>97</td>
<td>97.0</td>
<td></td>
<td>48</td>
<td>97.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10</td>
<td>50</td>
<td>50.0</td>
<td></td>
<td>27</td>
<td>55.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-15</td>
<td>27</td>
<td>27.0</td>
<td></td>
<td>16</td>
<td>32.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-20</td>
<td>13</td>
<td>13.0</td>
<td></td>
<td>4</td>
<td>8.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-25</td>
<td>5</td>
<td>5.0</td>
<td></td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>0</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family history of diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.808</td>
<td>NS</td>
</tr>
<tr>
<td>No</td>
<td>97</td>
<td>97.0</td>
<td></td>
<td>46</td>
<td>93.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>79</td>
<td>79.0</td>
<td></td>
<td>37</td>
<td>75.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>18.0</td>
<td></td>
<td>9</td>
<td>18.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: significant difference: p≤ 0.05

8.2 Self-care activities

8.2.1 Diet
Most of the diabetes type 2 patients followed a healthful eating plan “quite often” during the last month and also for the last 7 days. It was 80-85 % of the patients who stated that they ate vegetables and fruits more than once a day. Most of the patients ate high fat food “seldom” or “little”. There was significant difference between gender concerning high fat foods (p=0.043). The women ate high fat foods more than the men. See Table 2.
Table 2. Diet Self-Care (n = 100).

<table>
<thead>
<tr>
<th>Diet activities during the last 7 days</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td></td>
</tr>
<tr>
<td>Following a healthful eating plan.</td>
<td>97</td>
<td>97.0</td>
<td>5.76 ± 1.636</td>
<td>5.47 ± 2.043</td>
<td>0.445</td>
</tr>
<tr>
<td>Following a healthy eating plan last month.</td>
<td>96</td>
<td>96.0</td>
<td>5.38 ± 1.736</td>
<td>4.86 ± 2.191</td>
<td>0.209</td>
</tr>
<tr>
<td>Eating 5 or more serving of fruit or veg.</td>
<td>93</td>
<td>93.0</td>
<td>5.52 ± 1.898</td>
<td>5.20 ± 1.768</td>
<td>0.404</td>
</tr>
<tr>
<td>Eating high fat foods.</td>
<td>94</td>
<td>94.0</td>
<td>1.27 ± 1.912</td>
<td>2.20 ± 2.449</td>
<td>0.043</td>
</tr>
<tr>
<td>Spaced carbohydrate evenly through the day.</td>
<td>95</td>
<td>95.0</td>
<td>4.56 ± 2.138</td>
<td>4.36 ± 2.078</td>
<td>0.652</td>
</tr>
<tr>
<td>Times per day eating fruit</td>
<td>85</td>
<td>85.0</td>
<td>1.48 ± 0.816</td>
<td>1.27 ± 0.618</td>
<td>0.185</td>
</tr>
<tr>
<td>Times per day eating veg.</td>
<td>80</td>
<td>80.0</td>
<td>1.53 ± 0.910</td>
<td>1.45 ± 0.697</td>
<td>0.685</td>
</tr>
<tr>
<td>Amount of veg eaten per day</td>
<td>78</td>
<td>78.0</td>
<td>1.49 ± 1.245</td>
<td>1.21 ± 0.514</td>
<td>0.189</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤ 0.05

8.2.2 Exercise
The patients in this study did “quite often” and “more than sometimes” participate in at least 30 minutes of physical activity during the last 7 days, but they participated “seldom” in a specific exercise session. There was a significant difference (p=0.012) between men and women in participating in 30 minutes of physical activity during the last 7 days. The mean score for women was 4.04 days (SD 2.58) and 5.20 days (SD1.71) for men. See Table 3.

Table 3. Exercise Self-Care Activities (n = 100).

<table>
<thead>
<tr>
<th>Exercise activities during the last 7 days</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td></td>
</tr>
<tr>
<td>Participating in at least 30 minutes of physical activity.</td>
<td>96</td>
<td>96.0</td>
<td>5.20 ± 1.714</td>
<td>4.04 ± 2.577</td>
<td>0.012</td>
</tr>
<tr>
<td>Participate in a specific exercise session.</td>
<td>94</td>
<td>94.0</td>
<td>1.34 ± 2.282</td>
<td>0.94 ± 2.054</td>
<td>0.372</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤ 0.05

8.2.3 Blood glucose
Most of the patients (91%) in this study had tested their blood glucose since the last time they visited the diabetic clinic. There was a variation of how often blood glucose was checked, but the most common answer (44.2%) for both genders was once a month. Only 8.0 % checked their blood glucose daily. The most common reason for checking blood glucose was to control the disease, 81.43%, illness, 8.57%, and wound 5.71%. There was no significant difference between men and women concerning blood glucose control for the last seven days. See Table 4, Figure 1 and 2.
Table 4 Blood glucose self-care (n = 100).

<table>
<thead>
<tr>
<th>Blood glucose testing</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Tested blood glucose since last diabetic clinic visit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>91</td>
<td>91.0</td>
<td>47</td>
<td>95.9</td>
<td>44</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>8.0</td>
<td>2</td>
<td>4.1</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: significant difference: \( p \leq 0.05 \)

Figure 1. Blood glucose control (n = 100).

Figure 2. Reason for blood-glucose control (n = 100).
8.2.4 Foot-care
The participants washed their feet and dried between their toes “often”. They checked their feet and inside their shoes “quite often”, but only soaked their feet “seldom”. The statement “check inside of your shoes” had a significant difference between men and women (p=0.012), where the men checked inside their shoes more often. The mean score for men was 5.43 days (SD = 1.772) and for women 4.25 days (SD = 2.613). The statement “dry between your toes” had a significant difference between men and women (p=0.018) and the mean value for men was 6.19 days (SD = 1.173) and for women 5.34 days (SD = 2.129). The men dried between their toes more often than the women. See Table 5.

Table 5. Foot Self-care Activities (n = 100).

<table>
<thead>
<tr>
<th>Foot-care activities during the last 7 days</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check your feet</td>
<td>94</td>
<td>5.64 ± 1.481</td>
<td>5.26 ± 2.279</td>
<td>0.337</td>
<td>NS</td>
</tr>
<tr>
<td>Check the inside of your shoes.</td>
<td>94</td>
<td>5.43 ± 1.772</td>
<td>4.25 ± 2.613</td>
<td>0.012</td>
<td>S</td>
</tr>
<tr>
<td>Wash your feet</td>
<td>94</td>
<td>5.81 ± 1.362</td>
<td>5.28 ± 2.050</td>
<td>0.142</td>
<td>NS</td>
</tr>
<tr>
<td>Soak your feet</td>
<td>92</td>
<td>1.76 ± 2.758</td>
<td>2.48 ± 2.771</td>
<td>0.217</td>
<td>NS</td>
</tr>
<tr>
<td>Dry between your toes</td>
<td>94</td>
<td>6.19 ± 1.173</td>
<td>5.34 ± 2.129</td>
<td>0.018</td>
<td>S</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤0.05

8.2.5 Smoking
Only 52% of the participants answered the questions about smoking and of those who replied did 25 participants not smoke, 25 smoked and 2 used to smoke but not any longer. It was a significant difference between gender concerning smoking where 46.9% of the men and 3.9% of the women smoked. Of the participants did 40.8% of the men and 9.8% of the women reported that they had been asked about their smoking status at their last doctor visit. Of the participants had 32.7% of the men and 7.8% of the women answered that they had been given counselling, which was a significant difference between men and women (p= 0.015). See Table 6 and 7.
Table 6. Smoking Self-Care activities (n = 100).

<table>
<thead>
<tr>
<th>Smoking</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>P-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not smoke</td>
<td>25</td>
<td>25.0</td>
<td>8</td>
<td>16.3</td>
<td>17</td>
</tr>
<tr>
<td>Smoke</td>
<td>25</td>
<td>25.0</td>
<td>23</td>
<td>46.9</td>
<td>2</td>
</tr>
<tr>
<td>Do not smoke, but used to smoke</td>
<td>2</td>
<td>2.0</td>
<td>2</td>
<td>4.1</td>
<td>0</td>
</tr>
<tr>
<td>At your last doctor visit, did anyone ask about your smoking status?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>5.0</td>
<td>2</td>
<td>4.1</td>
<td>3</td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>25.0</td>
<td>20</td>
<td>40.8</td>
<td>5</td>
</tr>
<tr>
<td>Counselling about stop smoking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>2.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td>20.0</td>
<td>16</td>
<td>32.7</td>
<td>4</td>
</tr>
<tr>
<td>Last smoked a cigarette.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 2 years ago</td>
<td>7</td>
<td>7.0</td>
<td>5</td>
<td>10.2</td>
<td>2</td>
</tr>
<tr>
<td>1-2 years ago</td>
<td>3</td>
<td>3.0</td>
<td>2</td>
<td>4.1</td>
<td>1</td>
</tr>
<tr>
<td>4-12 months ago</td>
<td>2</td>
<td>2.0</td>
<td>2</td>
<td>4.1</td>
<td>0</td>
</tr>
<tr>
<td>1-3 months ago</td>
<td>1</td>
<td>1.0</td>
<td>1</td>
<td>2.1</td>
<td>0</td>
</tr>
<tr>
<td>Within the last month</td>
<td>2</td>
<td>2.0</td>
<td>2</td>
<td>4.1</td>
<td>0</td>
</tr>
<tr>
<td>Today</td>
<td>2</td>
<td>2.0</td>
<td>2</td>
<td>4.1</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤0.05

Table 7. Smoking activities (n = 100).

<table>
<thead>
<tr>
<th>Smoking activities</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>P-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td></td>
</tr>
<tr>
<td>How many cigarettes smoking per day.</td>
<td>24</td>
<td>24.0</td>
<td>19.55 ± 6.345</td>
<td>17.5 ± 17.678</td>
<td>0.706</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤0.05

8.2.6 Medication

Most of the participants took their recommended diabetes medication “often” during the past week. The most common reasons for not following the medication or other therapy throughout the week was for women “feeling that I am cured” and “drug side effects”. The most common reasons for men not following their medication or other therapy throughout the week was “forgetfulness” and “fear of injection”. Of all the participants did 19 % use herbal medicine as medication. Of those who did not use herbal medicine for their diabetes, had 6 % tried it before. There was a significant difference between gender in this statement (p=0.017), where only women had tried it. See Table 8 and 9.
Table 8. Medication Self-care (n = 100).

<table>
<thead>
<tr>
<th>Medication activities during the last 7 days.</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>Mean±SD</td>
<td>Mean±SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taken your recommended diabetes medication.</td>
<td>99</td>
<td>99.0</td>
<td>6.46 ± 1.129</td>
<td>6.67 ± 0.973</td>
<td>0.327</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤0.05

Table 9. Medication self-care activities (n = 100).

<table>
<thead>
<tr>
<th>Medication activities</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Recent for not following medication properly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No money to buy medications</td>
<td>2</td>
<td>2.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>Forgetfulness</td>
<td>8</td>
<td>8.0</td>
<td>5</td>
<td>10.2</td>
<td>3</td>
</tr>
<tr>
<td>Drugs side effects</td>
<td>12</td>
<td>12.0</td>
<td>3</td>
<td>6.1</td>
<td>9</td>
</tr>
<tr>
<td>Fear of injection</td>
<td>9</td>
<td>9.0</td>
<td>5</td>
<td>10.2</td>
<td>4</td>
</tr>
<tr>
<td>Feeling that I am cured</td>
<td>17</td>
<td>17.0</td>
<td>3</td>
<td>6.1</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>Taking herbal medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>19.0</td>
<td>10</td>
<td>20.4</td>
<td>9</td>
</tr>
<tr>
<td>No</td>
<td>80</td>
<td>80.0</td>
<td>39</td>
<td>79.6</td>
<td>41</td>
</tr>
<tr>
<td>If No, used herbal medicine before</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>6.0</td>
<td>0</td>
<td>0.0</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>77</td>
<td>77.0</td>
<td>39</td>
<td>79.6</td>
<td>38</td>
</tr>
</tbody>
</table>

Note: significant difference: p≤0.05

8.3 Self-care recommendations

8.3.1 Diet
Most of the participants (95%) had been advised by their health care givers to follow a diet, there were only four participants (4%) who had not been given this advice. The health-care diet advices that got the highest scores among the participants were “follow a low carbohydrate diet”, “low fat eating plan” and “food high in dietary fiber”. The advices that did not have as high scores as above were “eats lot of fruits and vegetables” and “eat very few sweets”. There were no significant differences between genders and diet recommendations. See Table 10.
Table 10. Diet self-care recommendations (n = 100).

<table>
<thead>
<tr>
<th>Diet Recommendations</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Advice from health-care team to follow a low fat eating plan.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>86</td>
<td>86.0</td>
<td>44</td>
<td>89.8</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>13.0</td>
<td>4</td>
<td>8.2</td>
<td>9</td>
</tr>
<tr>
<td>Advice from health-care team to follow a complex carbohydrate diet.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>93</td>
<td>93.0</td>
<td>46</td>
<td>93.9</td>
<td>47</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>6.0</td>
<td>2</td>
<td>4.1</td>
<td>4</td>
</tr>
<tr>
<td>Advice from health-care team to reduce the number of calories you eat to lose weight.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>75</td>
<td>75.0</td>
<td>38</td>
<td>77.6</td>
<td>37</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>24.0</td>
<td>10</td>
<td>20.4</td>
<td>14</td>
</tr>
<tr>
<td>Advice from health-care team to eat lots of food high in dietary fiber.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>84</td>
<td>84.0</td>
<td>42</td>
<td>85.7</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>15.0</td>
<td>6</td>
<td>12.2</td>
<td>9</td>
</tr>
<tr>
<td>Advice from health-care team to eat a lot of fruit and vegetable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>62.0</td>
<td>30</td>
<td>61.2</td>
<td>32</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>37.0</td>
<td>18</td>
<td>36.7</td>
<td>19</td>
</tr>
<tr>
<td>Advice from health-care team to eat very few sweets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>71</td>
<td>71.0</td>
<td>34</td>
<td>69.4</td>
<td>37</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td>28.0</td>
<td>14</td>
<td>28.6</td>
<td>14</td>
</tr>
<tr>
<td>Other advice given from health-care team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>99</td>
<td>99.0</td>
<td>48</td>
<td>98.0</td>
<td>51</td>
</tr>
<tr>
<td>Not been given any advice about diet from health-care team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>4.0</td>
<td>1</td>
<td>2.0</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>95</td>
<td>95.0</td>
<td>47</td>
<td>95.9</td>
<td>48</td>
</tr>
</tbody>
</table>

Note: significant difference: p ≤ 0.05

8.3.2 Exercise
Most of the participants (93%) had been given advice about exercise from their health-care team, only 6 % had not been given any information. It was 89 % of the participants who were recommended to get “low level exercise every day”, but it was only 9 % who got the recommendation “fit exercise into daily life”. There was a significant difference between men and women (p=0.02) concerning the recommendation “fit exercise into daily life”, where it was only women who had got this advice from health care givers. Remaining exercise statements had no significant differences between men and women. See table 11.
Table 11. Exercise Self-Care Recommendations (n = 100).

<table>
<thead>
<tr>
<th>Exercise Recommendations</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice from health-care team to get low level exercise every day.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>89</td>
<td>89.0</td>
<td>46</td>
<td>93.9</td>
<td>0.057</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>10.0</td>
<td>2</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Advice from health-care team to exercise continuously for 20 minutes at least 3 times a week.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>42.0</td>
<td>18</td>
<td>36.7</td>
<td>0.336</td>
</tr>
<tr>
<td>No</td>
<td>57</td>
<td>57.0</td>
<td>30</td>
<td>61.2</td>
<td></td>
</tr>
<tr>
<td>Advice from health-care team to fit exercise into your daily routine.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>9.0</td>
<td>0</td>
<td>0.0</td>
<td>0.002</td>
</tr>
<tr>
<td>No</td>
<td>90</td>
<td>90.0</td>
<td>48</td>
<td>98.0</td>
<td></td>
</tr>
<tr>
<td>Advice from health-care team to engage in a specific amount, type, duration and level of exercise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>7.0</td>
<td>1</td>
<td>2.0</td>
<td>0.060</td>
</tr>
<tr>
<td>No</td>
<td>92</td>
<td>92.0</td>
<td>47</td>
<td>95.9</td>
<td></td>
</tr>
<tr>
<td>Other advice given from health-care team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>3.0</td>
<td>0</td>
<td>0.0</td>
<td>0.088</td>
</tr>
<tr>
<td>No</td>
<td>96</td>
<td>96.0</td>
<td>48</td>
<td>98.0</td>
<td></td>
</tr>
<tr>
<td>Not been given any advice about exercise from health-care team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>6.0</td>
<td>2</td>
<td>4.1</td>
<td>0.191</td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>93.0</td>
<td>46</td>
<td>93.9</td>
<td></td>
</tr>
</tbody>
</table>

Note: significant difference: \( p \leq 0.05 \)

8.3.3 Medication and Blood glucose control recommendations
Most of the participants (92%) had been advised to test their blood sugar regularly, and 95% of them had also been prescribed insulin or pills for their diabetes. There was a significant difference between men and women regarding doctor prescription of 1-2 insulin shots a day (\( p=0.045 \)). More men than women got 1 to 2 shots insulin per day prescribed, 91.8% of the men and 78.4% of the women, while more women than men got 3 insulin shots or more prescribed per day. Of the women did 51% get insulin pills prescribed to control their blood glucose while only 32.7% of the men got prescribed insulin pills. See Table 12.
### Table 12. Medication and Blood glucose self-care activities (n = 100).

<table>
<thead>
<tr>
<th>Medication and Blood glucose control Recommendations</th>
<th>Total</th>
<th>Men</th>
<th>Women</th>
<th>p-value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td><strong>Doctor prescribed insulin shots 1-2 times per day.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85</td>
<td>85.0</td>
<td>45</td>
<td>91.8</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>13.0</td>
<td>3</td>
<td>6.1</td>
<td>10</td>
</tr>
<tr>
<td><strong>Doctor prescribed insulin shots 3 or more times per day.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
<td>17.0</td>
<td>6</td>
<td>12.2</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>81</td>
<td>81.0</td>
<td>42</td>
<td>85.7</td>
<td>39</td>
</tr>
<tr>
<td><strong>Doctor prescribed insulin pills to control blood sugar level.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>42.0</td>
<td>16</td>
<td>32.7</td>
<td>26</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>56.0</td>
<td>32</td>
<td>65.3</td>
<td>24</td>
</tr>
<tr>
<td><strong>Doctor prescribed any other medications for diabetes.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>2.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>No</td>
<td>96</td>
<td>96.0</td>
<td>48</td>
<td>98.0</td>
<td>48</td>
</tr>
<tr>
<td><strong>Have not been prescribed either insulin or pills for diabetes.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>3.0</td>
<td>1</td>
<td>2.0</td>
<td>2</td>
</tr>
<tr>
<td>No</td>
<td>95</td>
<td>95.0</td>
<td>47</td>
<td>95.9</td>
<td>48</td>
</tr>
<tr>
<td><strong>Advice given from health-care team.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test blood sugar regularly</td>
<td>92</td>
<td>92.0</td>
<td>46</td>
<td>93.9</td>
<td>46</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.0</td>
<td>1</td>
<td>2.0</td>
<td>0</td>
</tr>
<tr>
<td>No advice given</td>
<td>5</td>
<td>5.0</td>
<td>1</td>
<td>2.0</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: significant difference: \( p \leq 0.05 \)

### 9. Discussion

The aim of the study was to investigate the self-care of diabetes type 2 among men and women in Ho Chi Minh City, Vietnam, and also to investigate if there was any difference between genders concerning self-care activities. The results showed that most of the diabetes type 2 patients followed a healthful eating plan and ate vegetables and fruits “quite often”. They ate high fat food “seldom” or “little”. They did “quite often” and “more than sometimes” participate in at least 30 minutes of physical activity, but they participated “seldom” in a specific exercise session. Most of the patients had tested their blood glucose since the last time they visited the diabetic clinic, and checked it once a month. They washed their feet and dried between their toes “often”, and also checked their feet and inside their shoes “quite often”. They took their recommended diabetes medication “often” during the past week. Of all participants, 19 % used herbal medicine as medication. It was only 52 % participants who answered the questions about smoking, and of those did 25 participants smoke. Most of the participants had got several self-care recommendations from their health-care givers.
concerning diet, exercise and medication. It was a significant difference between gender in favour for the male gender concerning the statements high fat food, participating in 30 minutes of exercise, check inside the shoes, dry between toes, counselling about stop smoking, tried herbal medicine as medication.

9.1 Discussion of results

In general did the participants estimate their self-care activities relatively high and this shows that they had practical skills to organize and perform self-care, which agree with Dorothea Orem’s theory. These skills can be developed spontaneous by practising self care and through instructions from health care professionals (Kirkevold, 2000). Most of the participants had been given self-care recommendations from their health-care givers and as written above had the participants estimated their self-care relatively high which indicates that they have spontaneously practiced self-care activities. This shows that every adult has capacity to act in order to maintain their health and treat themselves in case of sickness or injury (Nationalencyklopedin,[NE], 2010). According to Orem's theory is the capacity depending on different factors such as education, individual knowledge and health status (Kirkevold, 2000). In this study did the men have a higher level of education than the women and this can be one of the explanations for why the women had a lower capacity to perform and organise their self-care. Therefore should the women get more information about self-care activities, which agree with Orem’s theory, who consider that the care should be conducted in such way that the individual or her relatives can get help as far as possible to regain the patient’s self-care capacity (Kirkevold, 2000).

Diet

The diabetes type 2 patients in this study had been advised by their health care givers to follow a healthful diet, and the results showed that most of the diabetes type 2 patients had followed a healthful eating plan. These results agree with The International Diabetes institutes (2005) recommendations concerning food planning as it can help the patient to get a well balanced diet, stable the glucose level and reduce the cardiovascular risk factors. The international Diabetes institute also recommended reduced intake of sugar, but only 71 % of the patients were recommended to eat very few sweets by the health-care givers. Of the participants did 80-85 % eat vegetables and fruits more than once a day which is consistent with the recommendations from WHO (2009). Only 62 % had been given the advice to eat a minimum of 5 servings of fruit and vegetables per day by their health care giver. The recommendation for total energy intake was 30 % or less from fat (International Diabetes Institute, 2005), but most of the participants in this study ate high fat food only “seldom” or “little”. One of the explanations for this could be that majority of the patients got other advices from their healthcare givers such as follow a low fat eating plan, complex
carbohydrate diet, eat food high in dietary fibre and reduce the number of calories. Parker, Noakes, Luscombe & Clifton (2002) showed that different diets can help to decrease fasting blood glucose and insulin concentrations which also could be an explanation why the participants have been given other advice. Concerning diet it was only one significant difference between genders. The women ate more high fat food than men, but it was still low scores for both genders concerning this statement. Tomisaka et al. (2002) showed that patients with Diabetes type 2 in Ho Chi Minh City had a lower intake of fat compared to women in other Asian countries. The authors have observed that Vietnamese food consist of a lot of vegetables and carbohydrate such as rice and noodles, but no fat. This could explain the results in the study, where the majority of the participants ate a lot of fruit and vegetables but very few followed a high fat diet.

Exercise
A majority of the participants had been advised by their health care givers to get low level of exercise daily. This is consistent with the common health goal to achieve at least 150 minutes of physical activity every week (International Diabetes Institute, 2005). The men achieved the common health goal with a mean of 5.2 days with 30 minutes of physical activity, which means 156 minutes a week. The women did not achieve the common health goal and had a mean of 4.04 days with 30 minutes of physical activity, which means 121 minutes a week. Although most participants had been advised to get low level of exercise daily had only 9 women got the recommendation to fit exercise into the daily routine such as walking instead of taking the motorbike. The patients did seldom participate in a specific exercise session and they did neither get advised to engage in a specific amount, time, duration and level of exercise. This can be explained by Cockram (2000) who found that people in Vietnam and other Asian countries have become more inactive due to urbanization, westernisation and changing of life style. The authors has also observed that few Vietnamese men and women participate in specific exercise sessions, but it is more common to get low level of exercise daily such as walking in the park. According to International Diabetes Institute (2005), it is important to adopt a healthy lifestyle to lower the mortality rates and to improve the body's insulin sensitivity and glycaemic control (Guerci et al., 2003; Svenska Diabetesförbundet, 2006). The results from the study can also be related to Kirk et al. (2006) who showed that exercise consultation increase the physical activity level for patients with diabetes type 2. Therefore the authors consider that more information should be given to the patients about the importance of exercise.

Blood glucose
Most of the patients in this study had been advised by their health-care givers to check their blood-
glucose regularly, and 44.2% of them checked it once a month. These results do not agree with Guerci et al. (2003) who found that monitoring of the blood glucose level should be done regularly at home before each meal and at bedtime, which is associated with a better improvement of the metabolic control. However, the results do agree with the International Diabetes Institute (2005) that monitoring of blood glucose depends on the available resources in the country and on the available resources for the individual. Most of the patients were prescribed insulin on a daily basis. Benjamin (2002) indicated that the patients who are prescribed insulin should check their blood glucose at least 4 times per day to help to prevent hypoglycaemia. This means that the patients in this study did not have control over their own blood glucose, since only 8% of the participants checked their blood glucose daily. The most common reason for checking the blood glucose was to “control of the disease”. This shows that participants have knowledge of why blood glucose should be monitored but not enough knowledge about how often they should do it. The reason for not checking blood glucose on a daily basis may depend on the available resources in the country or the resources for the individual (International Diabetes Institute, 2005). The authors do believe that the costs of blood-glucose control in Vietnam could be one of the reasons why the patients did not check their blood-glucose more often. The authors also consider that the patient need more information concerning blood-glucose control for the patients who are prescribed insulin daily.

Foot Care

The participants washed their feet and dried between their toes “often”. It was significant difference between men and women concerning the statement “dry between your toes”, where men dried between their toes more often than women. The American College of Foot and Ankle Surgeon’s (2009) recommend that patients need to wash the feet daily and dry the feet carefully, especially between the toes. This means that the patients have not fulfilled these recommendations since they did not wash or dry their feet daily. The participants checked their feet and inside their shoes “quite often” and it was a significant difference between men and women concerning the statement check inside your shoes, where the men did it more often than the women. These results do not agree with The American College of Foot and Ankle Surgeon’s (2009) who consider that patients need to inspect their shoes and feet daily, to see if the shoes are broken, or if there are any blisters, redness, cuts, nail problems or swelling, since the disease can cause neuropathy, which make the patient unable to feel any blisters or stones in the shoes. The blood circulation can also be reduced to the foot, which can make it difficult for wounds or ulcers to heal. The results show that the patients have not fulfilled these recommendations since they did not check their feet and inside their shoes daily. The participants soaked their feet “seldom” with a mean of 1.76 days per week for men and 2.48 days for women. This is more than the recommendations from Bäckström et al.(2009), who
consider foot bath once a week.

The authors consider that the participants had a good foot care, even though it was not optimal. The men had slightly better results than the women, accept for the two statements “soak your feet” and “check inside your shoes”, where the men had not only slightly but significant better results. Since there were no questions in the questionnaire about foot self-care recommendations, is it difficult to make any conclusions considering why the men had better results than the women since this could be one of the explanations. If the foot care is not optimal it can lead, in worst cases, to amputations and loss of quality of life, physical loss and economical burden in terms of industrial disability and health care loss (Nabuurs-Franssen, Huijbers, Nieuwenhuijzen Kruseman, Willems & Schaper, 2005; Ragnarson Tennvall & Apleqvist, 2004). Therefore the authors think the health-care givers in Vietnam should improve their foot care recommendations even more since the result concerning foot self-care activities was not optimal.

**Smoking**

In this study did only 52 % of the participants answer the questions about smoking, and of those who replied did 25 participants smoke. It was a significant difference between genders where more men than women smoked. Wannamethee, Shaper & Perry (2001) showed that smoking, both light and heavy, is a risk factor for developing diabetes type 2. Smoking is also a risk factor for mortality and foot ulcers (McEwen et al., 2007; American College of Foot and Ankle Surgeons, 2009) and therefore should these diabetes type 2 patients stop smoking. Of the participants had 32.7% of the men and 7.8% of the women answered that they had been given counselling to stop smoking. It was a significant difference between genders where more men then women had got counselling from their health care givers to stop smoking. One explanation for this could be that smoking is not culturally accepted among women in Vietnam, according to Mr Viet, the master student, and the doctors may therefore not asked the women about their smoking habits or given them counselling to stop smoking. Despite this statement have the authors seen Vietnamese women smoke. Based on this result should the health care givers therefore improve their counselling concerning stop smoking to both genders, especially for the women since so few had got this recommendation concerning smoking.

**Medication**

All the participants had been prescribed insulin shots or pills for their diabetes. The women seemed to be in a worse condition than the men, since they needed more shots of insulin per day than the men. It was 42 % of the participants who got insulin pills prescribed, which does not agree with the
Garber, Larsen, Schneider, Piper & Henry (2002) who showed that insulin should be used as a combination with oral therapy to reduce the risk of hypoglycaemia and weight gain.

A majority of the participants took their recommended diabetes medication “often” during the past week. There were several reasons for not taking the medication such as “feeling I am cured” and “forgetfulness”. In this study did 19% of the participants use herbal medicine which also could be an explanation for why the participants did not take their diabetes medicine on a daily basis as recommended. This means that the health-care givers need to inform the patients more about the importance of taking the medicine to make the patient confident in their self-care. Rubin, Peyrot & Siminbrio (2006) found that the relation between the patient and the healthcare provider is associated with a better regimen adherence.

**Self-care recommendations**

A majority of the participants had been given self-care recommendations from their health-care givers concerning diet, exercise and medication. Most of the recommendations had overall high scores, which indicates that the participants had received several self-care recommendations. This is consistent with the recommendations by The International Diabetes Institute (2005) who consider that the health care provider’s main task is to educate the patient so that the patient has knowledge about the importance of regular exercise, meal planning, food intake, insulin, oral hypoglycaemic drugs and self-monitoring of blood glucose. The participants overall high scores for the statements of how they have performed their own self-care activities can also indicate that the health care givers recommendations have been followed by the participants in Ho Chi Minh City.

**9.2 Method Discussion**

Little research is done on diabetes type 2 and the self-care in Ho Chi Minh City. Therefore was this quantitative study important to investigate the self-care activities among men and women with diabetes type 2. The quantitative study was used because of its strength to ensure generalizability, objectivity and reliability (Weinreich, 2006). The authors verified the reliability of the study by reviewing the responses from the questionnaire twice to ensure that correct data had been entered into SPSS. The validity was The questionnaire was based on a study of Toobert, Hampson and Glasgow (2000) and was developed by Doctor Pranee Lundberg, Uppsala University. The questionnaire was translated into Vietnamese language by Mrs. Doan Thi Anh Le after discussion together with Doctor Pranee Lundberg to adjust to Vietnamese culture.
Regarding the question about “smoking” in the questionnaire many participants, particularly women, did not answer the question. The reasons for this low response could be that few of the participants were smokers or they felt ashamed to answer questions concerning smoking since it can be sensitive. Another reason could be that smoking is not cultural accepted in Vietnam among women according to Mr Viet, and therefore did he not ask the female participants who he helped to fill in the questionnaire about their smoking habits. As the questions concerning smoking had such low response do the authors not consider the results reliable.

Due to language barrier, between the participants and the authors, Mr Tran Trinh Viet, a Vietnamese Master Degree student, helped the patients to fill in the questionnaire and answer questions. Mr Viet was informed about the content and the participant’s right to participate before handing out the questionnaire. Most of the patients had problems to fill in the questionnaire by themselves due to tiredness, retinopathy and difficulty to read and understand the questions; therefore, they got help from Mr Viet or their relatives to fill in the questionnaire. This may be one of the explanations for the high response for most of the questions. Another reason for the high response could be that most of the participants were hospitalized in rooms with a lot of patients and no privacy, perhaps felt forced to participate. Some patients perhaps participated to please their relatives or Mr Viet. To get help completing the survey may also result in patients feeling compelled to participate in the study. Mr. Viet was responsible for giving out the questionnaires and therefore the authors do not know if anyone refused to participate in this study.

The men and women who participated in this study were recruited both at the Endocrinology ward and at the Endocrinology Clinic at the Choray Hospital. Most of the patients at the ward had sought medical care due to foot ulcers while patients at the clinic had sought medical care due to different complications. This means that all participants in this study had some kinds of diabetes type 2 complications. Several participants in the ward had been hospitalized for more than one week, therefore, it could be difficult for them to estimate their self-care for the last week. At the clinic, the condition was the opposite. The patients only stayed for a couple of hours, and could easily remember their self-care during the last week. The problem was that the clinic was very busy and many patients had no time to fill in the questionnaire.

The limitation in this study has been the lack of information concerning diabetes type 2 in Vietnam, which has made it difficult to compare this study with previous studies. The study was conducted in the big hospital of Ho Chi Minh City, Choray hospital, where there are patients from both urban and rural areas, but there were no question concerning where the participants live in the questionnaire. It
is difficult to generalize the results to the whole country since many people live in rural areas. Another limitation could be that Mr Viet helped the participants to fill in the questionnaire, and this could also be a bias. It is also unknown how many patients who refused to participate in this study, since the authors did not hand out the questionnaire to the participants. However, the authors believe that the aim has been achieved of this study because of the high respond rate of the participants (100 %) in the study.

9.3 Conclusions
There was an overall good self-care among diabetes type 2 patients in Ho Chi Minh City. The men had slightly better results than the women concerning all self-care activities and it was a significant difference between genders in 7 of 27 statements. Most of the patients had been given many different recommendations but the diabetes type 2 patients in Ho Chi Minh City still need to get more information about self-monitoring of blood-glucose and to eat more high fat food. The women need to exercise more and both gender need to adopt a healthy lifestyle into their daily life to improve the self-care and reduce the risk of diabetes complications.

9.4 Clinical Implications
The results from this study can be used by health care providers when they meet Vietnamese diabetes type 2 patients in both Sweden and Vietnam. It can give health-care providers a better knowledge about diabetes self-care in Ho Chi Minh City and what needs to be improved. The content of this study also gives healthcare professionals an opportunity to get feedback of their recommendations for diabetes type 2 patients and what information they can give to improve the self-care.

9.5 Further research study
In this study did the authors investigate how the participants practised their self-care activities and what recommendations they had received from their health-care givers, and if there are any difference between genders. For a future study it would be interesting to compare what self-care recommendations the patients believe that they have received from the health-care givers, with what recommendations the health-care givers believe they have given to the patients. This could show if there is lack of information from the health-care givers or if there are any area concerning self-care of diabetes type 2 that needs to be improved. It can also be interesting to make a qualitative study to understand more deeply why the women have poorer self-care of their diabetes compare to men.
9.6 Acknowledgement
We want to thank the International Programme Office for Education and Training, SIDA, Sweden who gave us the Linnaeus-Palme Scholarship to carry out this study. We especially want to thank our supervisor Dr. Pranee Lundberg, Associate Professor at the Department of Public Health and Caring Sciences, for all help during the work with the thesis. We also want to thank Mrs. Nguyen Thi Suong, Head of the Department of Nursing, Mrs. Doan Thi Anh Le, teacher at the Department of Nursing and Mr Tran Trinh Quoc Viet, Master student for all their help to make it possible for us to write and implement this study.
10. References


ASSESSMENT OF SELF CARE PRACTICES
FOR PEOPLE WITH TYPE 2 DIABETES MELLITUS
IN HO CHI MINH CITY

Please mark (X) your answer for every question.

A. BACKGROUND: DEMOGRAPHIC INFORMATION

A 1. Gender
   □ 1. Man  □ 2. Woman

A 2. Age
   ________ years

A 3. Marital status
   □ 1. Single  □ 2. Married
   □ 3. Separated  □ 4. Divorced
   □ 5. Widowed  □ 6. De facto married
   □ 7. Other, ________________

A 4. Education
   □ 1. Primary school  □ 2. Secondary school
   □ 3. High school  □ 4. Certificate (College)
   □ 5. Bachelor  □ 6. Other, ________________

A 5. Occupation
   □ 1. Worker  □ 2. Government officer
   □ 3. Technician  □ 4. Merchant
   □ 5. Farmer  □ 6. Gardener
   □ 7. House duty  □ 8. Other, ________________

A 6. Do you have children?
   □ 1. No  □ 2. Yes

A 7. If Yes how many children?
   □ 1. One to Two  □ 2. Three to Four
   □ 3. Five to Six  □ 4. Seven or more

A 8. How many children live with you? __________

A 9. How many people do you live with at home?

A 10. How adequate is your income to meet your daily living expenses?
   □ 1. Enough
   □ 2. Barely enough
   □ 3. Totally inadequate
A 11. What is your religion?

☐ 1. Christian  ☐ 2. Muslim

☐ 3. Hinduism  ☐ 4. Buddhism

☐ 5. Traditional religion  ☐ 6. Other (Specify)

A 12. For how long have you been living with Diabetes? ......................

A 13. Does your family have any history of Diabetes?

☐ 1. No  ☐ 2. Yes

**B. SUMMARY OF DIABETES SELF CARE ACTIVITIES (SDSCA) MEASURE:**

The questions below ask you about your diabetes self-care activities during the past 7 days. If you were sick during the past 7 days, please think back to the last 7 days that you were not sick.

Please encircle the number which correspond to your level of activities

**B1: Diet**

B 1.1: How many of the last SEVEN DAYS have you followed a healthy eating plan?

0  1  2  3  4  5  6  7

B 1.2: On average, over the past month, how many DAYS PER WEEK have you followed your eating plan?

0  1  2  3  4  5  6  7

B 1.3: On how many of the last SEVEN DAYS did you eat five or more servings of fruits and vegetables?

0  1  2  3  4  5  6  7

  B 1.3 (a) How many times do you eat fruits per day? ..............
  B 1.3 (b) How many times do you eat vegetables per day ..........
  B 1.3 (c) How much of vegetables do you eat per day (give estimation by using a cup of tea) ................

B 1.4: On how many of the last SEVEN DAYS did you eat high fat foods such as red meat or full-fat dairy products?

0  1  2  3  4  5  6  7

B 1.5: On how many of the last SEVEN DAYS did you space carbohydrates evenly through the day?

0  1  2  3  4  5  6  7
B 2: Exercise

B 2.1: On how many of the last SEVEN DAYS did you participate in at least 30 minutes of physical activity? (Total minutes of continuous activity, including walking).

0 1 2 3 4 5 6 7

B 2.2: On how many of the last SEVEN DAYS did you participate in a specific exercise session (such as swimming, walking, biking) other than what you do around the house or as part of your work?

0 1 2 3 4 5 6 7

B 3: Blood Sugar Testing

B 3.1: Have you ever tested your blood glucose since the last time you visited the diabetic clinic?

☐ 1. No  ☐ 2. Yes

B 3.2 If yes, how many times have you tested? ...........................................

B 3.3: What made you to decide to check your blood glucose level?

1. ..............................................................................................................
2. ..............................................................................................................
3. ..............................................................................................................
4. ..............................................................................................................
5. ..............................................................................................................

B 4: Foot Care

B 4.1: On how many of the last SEVEN DAYS did you check your feet?

0 1 2 3 4 5 6 7

B 4.2: On how many of the last SEVEN DAYS did you inspect the inside of your shoes?

0 1 2 3 4 5 6 7

B 4.3: On how many of the last SEVEN DAYS did you wash your feet?

0 1 2 3 4 5 6 7

B 4.4: On how many of the last SEVEN DAYS did you soak your feet?

0 1 2 3 4 5 6 7

B 4.5: On how many of the last SEVEN DAYS did you dry between your toes after washing?

0 1 2 3 4 5 6 7
B 5: Smoking

B 5.1: Are you smoking or have you ever-smoked cigarette?

☐ 1. Do not smoke  ☐ 2. Smoke [Go to B5.2]

☐ 3. Do not smoke, but I used to smoke in the past

B 5.2: If yes, how many cigarettes did you smoke on an average a day?
Number of cigarettes: ......................

B 5.3: At your last doctor’s visit, did anyone ask about your smoking status?

☐ 1. No  ☐ 2. Yes

B 5.4: If you smoke, at your last doctor’s visit, did anyone counsel you about stopping smoking or offer to refer you to a stop-smoking program?

☐ 1. No  ☐ 2. Yes

B 5.5: When did you last smoke a cigarette?

☐ 1. More than two years ago, or never smoked
☐ 2. One to two years ago
☐ 3. Four to twelve months ago
☐ 4. One to three months ago
☐ 5. Within the last month
☐ 6. Today

B 6: Medications

B 6.1: On how many of the last SEVEN DAYS, did you take your recommended diabetes medication?

0 1 2 3 4 5 6 7

B 6.2: If the medication/other therapy were not followed properly throughout the week, give reasons:

☐ 1. No money to buy medications
☐ 2. Forgetfulness
☐ 3. Drugs side effects
☐ 4. Fear of injection
☐ 5. Feeling that I am cured
☐ 6. Other (specify) .................................................................

B 6.3 Are you taking any traditional/Chinese/herbal medicine for your Diabetes?

☐ 1. No  ☐ 2. Yes [Go to question B7.1]
B 6.4 If, No. Have you ever used any traditional/Chinese/herbal medicine for your Diabetes?

☐ 1. No
☐ 2. Yes

B 7: self-care recommendations

B 7.1: Which of the following has your health care team (doctor, nurse, dietitian, or diabetes educator) advised you to do?
Please check all that apply:

☐ 1. Follow a low-fat eating plan
☐ 2. Follow a complex carbohydrate diet
☐ 3. Reduce the number of calories you eat to lose weight
☐ 4. Eat lots of food high in dietary fiber
☐ 5. Eat lots (at least 5 servings per day) of fruits and vegetables
☐ 6. Eat very few sweets (for example: desserts, non-diet sodas, candy bars)
☐ 7. Other (specify): .................................................................
☐ 8. I have not been given any advice about my diet by my health care team.

B 7.2: Which of the following has your health care team (doctor, nurse, dietitian or diabetes educator) advised you to do?
Please check all that apply:

☐ 1. Get low level exercise (such as walking) on a daily basis.
☐ 2. Exercise continuously for at least 20 minutes at least 3 times a week.
☐ 3. Fit exercise into your daily routine (for example, take stairs instead of elevators, park a block away and walk, etc.)
☐ 4. Engage in a specific amount, type, duration and level of exercise.
☐ 5. Other (specify): .................................................................
☐ 6. I have not been given any advice about exercise by my health care team.

B 7.3: Which of the following has your health care team (doctor, nurse, dietitian, or diabetes educator) advised you to do?
Please check all that apply:

☐ 1. Test your blood sugar regularly.
☐ 2. Other (specify): .................................................................
☐ 3. I have not been given any advice either about testing my blood sugar level by my health care team.

B 7.4: Which of the following medications for your diabetes has your doctor prescribed?
Please check all that apply:

☐ 1. An insulin shot 1 or 2 times a day.
☐ 2. An insulin shot 3 or more times a day.
☐ 3. Diabetes pills to control my blood sugar level.
☐ 4. Other (specify): .................................................................
☐ 5. I have not been prescribed either insulin or pills for my diabetes.

Thank you for your answer!
Dành giá về việc tự chăm sóc của người bệnh tiêu đường tupe 2 tại thành phố Hồ Chí Minh

Vui lòng đánh tráo vào mỗi câu trả lời của bạn:

A. Thông tin nền: thông tin cá nhân:

A 1. Giới tính
- ☐ 1. Nam
- ☐ 2. Nữ

A 2. Tuổi
- ☐ tuổi

A 3. Tình trạng gia đình
- ☐ 1. Độc thân
- ☐ 2. Có gia đình
- ☐ 3. Ly thân
- ☐ 4. Ly dị
- ☐ 5. Góa
- ☐ 6. Sống với nhau không có hôn thú
- ☐ 7. Khác,

A 4. Trình độ học vấn
- ☐ 1. Tiểu học
- ☐ 2. Trung học cơ sở
- ☐ 3. Trung học
- ☐ 4. Cao đẳng
- ☐ 5. Cử nhân
- ☐ 6. Khác,

A 5. Nghiệp nghiệp
- ☐ 1. Công nhân
- ☐ 2. Công nhân viên
- ☐ 3. Kỹ thuật viên
- ☐ 4. Thương gia
- ☐ 5. Nông dân
- ☐ 6. Người làm vợ
- ☐ 7. Nội trợ
- ☐ 8. Khác,

A 6. Bạn đã có con chưa?
- ☐ 1. Không
- ☐ 2. Có

A 7. Nếu có, bạn có bao nhiêu người con?
- ☐ 1.1-2 con
- ☐ 2.3-6 con
- ☐ 3.7-10 con
- ☐ 3. > 7 con

A 8. Có bao nhiêu người con đang sống chung với bạn?
A 9. Có bao nhiêu người sống chung trong một nhà với bạn?
A 10. Tông thu nhập của bạn có đủ để chi phí cho sinh hoạt hàng ngày của bạn không?
- ☐ 1. Đủ
- ☐ 2. Vừa đủ
- ☐ 3. Hầu như không đủ
A 11. Tín ngưỡng của bạn là gì?

☐ 1. Đạo thiện chúa  ☐ 2. Đạo hối
☐ 3. Ân dạo giáo  ☐ 4. Đạo Phật
☐ 5. Tín ngưỡng theo truyền thống gia đình
☐ 6. Khác (yêu cầu ghi rõ ra)

A 12. Bạn đã mắc phải bệnh tiêu đường bao lâu rồi?

A 13. Gia đình của bạn có ai bị tiêu đường không?

☐ 1. Không  ☐ 2. Có

B. Đồ lường mức độ tự chăm sóc của người bệnh tiêu đường:

Nhiều câu hỏi dưới đây là bağlı về sự tự chăm sóc của bạn trong suốt thời gian 1 tuần đã qua.
Nếu bạn bị đau trong 7 ngày qua thì có thể nhớ lại 7 ngày trước đó khi bạn không bị bệnh.
Vui lòng khoanh tròn trước các câu trả lời của bạn.

B1: Chế độ ăn

B 1.1: Bao nhiêu ngày trong tuần qua bạn đã thực hiện được theo đúng chế độ ăn của bạn?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

B 1.2: Trung bình, trong tháng qua có bao nhiêu ngày trong một tuần bạn thực hiện theo đúng chế độ ăn bình thường của bạn?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

B 1.3: Bao nhiêu ngày trong tuần qua bạn ăn thêm cơm, rau và trái cây?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

B 1.3 (a) Bạn ăn trái cây bao nhiêu lần trong ngày?

B 1.3 (b) Bạn ăn rau quả bao nhiêu lần trong ngày?

B 1.3 (c) Bạn ăn bao nhiêu rau quả trong ngày?

B 1.4: Bao nhiêu ngày trong tuần vừa qua bạn ăn loại thức ăn nhanh như thịt đố, hoặc các loại thức ăn có nhiều chất béo?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

B 1.5: Bao nhiêu ngày trong tuần qua bạn chia đều lượng đường trong ngày?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

B 2: Vận động, tập thể dục

B 2.1: Bao nhiêu ngày trong tuần qua bạn tham dự ít nhất 30 phút vận động thể chất? (tôn thời gian vận động trong ngày, kể cả việc đi bộ)

|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
B 2.2: Bao nhiêu ngày trong tuần qua bạn tham dự những buổi chơi thể thao (như bơi lội, đi bộ, đạp xe đất)?

0 1 2 3 4 5 6 7

B 3: Thứ đường huyết

B 3.1: Bạn có kiểm tra đường huyết trong tuần rồi khi bạn đến khám bệnh tiêu đường tại phòng khám không?

☐ 1. Không ☐ 2. Có

B 3.2 Nếu có, thì bao lâu bạn kiểm tra đường huyết một lần? ..................................................

B 3.3: Điều gì đã khiến bạn quyết định đi kiểm tra đường huyết của bạn?

1. ...........................................................................................................
2. ...........................................................................................................
3. ...........................................................................................................
4. ...........................................................................................................
5. ...........................................................................................................

B 4: Chăm sóc bàn chân

B 4.1: Bao nhiêu ngày trong tuần qua bạn kiểm tra bàn chân của bạn?

0 1 2 3 4 5 6 7

B 4.2: Bao nhiêu ngày trong tuần qua bạn quan sát bến ngoài đôi giày của bạn?

0 1 2 3 4 5 6 7

B 4.3: Bao nhiêu ngày trong tuần qua bạn đã rửa bàn chân của bạn?

0 1 2 3 4 5 6 7

B 4.4: Bao nhiêu ngày trong tuần qua bạn ngâm bàn chân của bạn?

0 1 2 3 4 5 6 7

B 4.5: Bao nhiêu ngày trong tuần qua bạn lau khô giữa các ngón chân của bạn sau khi rửa chân?

0 1 2 3 4 5 6 7

B 5: Hút thuốc lá

B 5.1: Bạn có đang hút thuốc hay bạn đã từng hút thuốc lá không?

☐ 1. Không hút ☐ 2. Hút thuốc [vui lòng trả lời tiếp phần B5.20]

☐ 3. Không hút, nhưng tôi đã từng hút thuốc trước đây
B 5.2: Nếu có, trung bình một ngày bạn hút bao nhiêu điếu thuốc?
Số lượng điếu thuốc: .........................

B 5.3: vào lần cuối cùng khi đến khám bác sĩ, có ai hỏi bạn về tình trạng hút thuốc lá của bạn không?
☐ 1. Không  ☐ 2. Có

B 5.4: Nếu bạn hút thuốc lá, vào lần cuối cùng khi bạn gặp bác sĩ, có ai cho bạn lời khuyên về việc nên ngừng hút thuốc hoặc khuyên bạn nên có kế hoạch cải nghiện thuốc lá không?
☐ 1. Không  ☐ 2. Có

B 5.5: Bạn hút thuốc lá lần cuối cùng khi nào?
☐ 1. Cách đây 2 năm hoặc không có hút thuốc
☐ 2. Cách đây một đến 2 năm
☐ 3. Cách đây 4 đến 12 tháng
☐ 4. Cách đây 1 đến 3 tháng
☐ 5. Trong vòng 3 tháng trước
☐ 6. Hôm nay

B 6: Dùng thuốc
B 6.1: Bao nhiêu ngày trong tuần qua bạn đã dùng thuốc điều trị bệnh tiêu đường theo đúng lời dặn dò của Bác sĩ?

0 1 2 3 4 5 6 7

B 6.2: Nếu dùng thuốc hoặc cách thức điều trị khác mà theo bạn không có hiệu quả trong tuần, nếu lý do:
☐ 1. Không có tiền mua thuốc
☐ 2. Có tiền hay quên
☐ 3. Có nhiều tác dụng phụ của thuốc
☐ 4. Sự tiêm thuốc
☐ 5. Tôi cảm thấy được khỏi bệnh
☐ 6. Khác (vui lòng ghi rõ ra)..............................................

B 6.3 Bạn có đang dùng loại thuốc dẫn độc, thuốc trung quoc hay loại thảo dược nào để điều trị bệnh tiêu đường của bạn không?
☐ 1. Không  ☐ 2. Có [Vui lòng trả câu hỏi B7.1]

B 6.4 Nếu không, bạn có bao giờ đã từng dùng thuốc dẫn độc, thuốc Trung Quốc hoặc loại thảo dược để điều trị bệnh tiêu đường của bạn không?
☐ 1. Không  ☐ 2. Có

B 7: Yêu cầu về sự tự chăm sóc

B 7.1: Người nào trong nhóm chăm sóc sức khỏe cho bạn lỏi khuyên về cách tự chăm sóc (Bác sĩ, Điều dưỡng, người dạy về bệnh tiêu đường)?

Vui lòng đánh chéo trước các câu trả lời của bạn
B 7.2: Người nào trong nhóm chăm sóc sức khỏe cho bạn lời khuyên về cách tự chăm sóc (Bác sĩ, Điều dưỡng, người đây về bệnh tiên đường)?

Vui lòng đánh chéo trước các câu trả lời của bạn

☐ 1. Có chế độ tập vận động nhẹ nhàng (như đi bộ) hàng ngày.
☐ 2. Tập thể dục thường xuyên cho ít nhất 20 phút / lần, và ít nhất 3 lần / tuần.
☐ 3. Tập thể dục theo hoạt động hàng ngày (ví dụ: dùng thang bô, không dùng thang máy khi lên cầu thang...)
☐ 5. Khác (vui lòng ghi rõ)
☐ 6. Tố chửa bao giờ nhận được lời khuyên về chế độ tập vận động cho người tiên đường từ nhóm nhân viên y tế

B 7.3: Người nào trong nhóm chăm sóc sức khỏe cho bạn lời khuyên về cách tự chăm sóc (Bác sĩ, Điều dưỡng, người đây về bệnh tiên đường)?

Vui lòng đánh chéo trước các câu trả lời của bạn

☐ 1. Kiểm tra đường huyết của bạn thường xuyên.
☐ 2. Khác (vui lòng ghi rõ)
☐ 3. Tố chửa bao giờ nhận được lời khuyên về việc kiểm tra đường huyết cho người tiên đường từ nhóm nhân viên y tế

B 7.4: Loại thuốc nào bác sĩ đã kê toa để điều trị bệnh tiên đường cho bạn?

Vui lòng đánh chéo vào các câu trả lời

☐ 1. Tiêm insulin 1-2 lần trong ngày
☐ 2. Tiêm insulin 3 hoặc hơn trong ngày.
☐ 3. Thuốc viên điều trị tiên đường.
☐ 4. Khác (vui lòng ghi rõ)
☐ 5. Bạn không có toa thuốc điều trị tiên đường bằng thuốc insulin hoặc thuốc viên.

Thank you for your answer!
Cảm ơn sự trả lời của bạn!