APPENDIX A

TABLES

Table A1

The percentages of subjects' NHPB in each item (N= 130).

NHPB	%			
	4	**3**	**2**	**1**
Selecting a healthy diet				
1. Always read the nutrition facts information	10	51.5	33.8	4.6
2. Eat fruit and vegetable every day	16.9	73.8	8.5	0.8
3. Choose food containing low to medium GI in diet	7.7	58.5	31.5	2.3
4. Choose food containing complex carbohydrate	5.4	68.5	23.8	2.3
5. Consume high calorie fruit in moderate amount	4.6	20.0	43.8	31.5
6. Limit sugar intake	14.6	68.5	14.6	2.3
7. Eat food that cooked by baking, boiling or steaming	7.7	55.4	35.4	1.5
8. Rarely use coconut milk or oils in cooking	2.3	56.9	36.9	3.8
9. Take fish, soy protein more often than poultry or red meat.	8.5	70.8	20.8	-
10. Avoid salty food.	4.6	50.8	43.1	1.5
Arranging meal plan				
11. Understand and able to arrange right meal plan	-	76.9	20.0	3.1
12. Understand to use plate method	0.8	55.4	39.2	4.6
13. Understand and able to use serving methods	0.8	44.6	50.2	4.6
14. Understand and able to use food exchange list	1.5	53.1	41.5	3.8
15. Eat 3 meals a day	6.2	68.5	24.6	0.8
16. Eat meal in same time every day	1.5	63.8	33.8	0.8
17. Eat variety foods in every meal daily	6.2	68.5	25.4	-
Recognizing food calories				
18. Know and able to calculate calorie of food.	1.5	45.4	46.9	6.2
19. Consume the same amount of food every day.	2.3	51.5	41.5	4.6

NHPB	%			
	4	**3**	**2**	**1**
20. Weigh or measure calorie of food in each meal by using cup, grams/ounce, or serving sizes.	1.5	46.2	47.7	4.6
21. Know how the amount of calorie you should take in each meal from carbohydrate, protein, and fat.	1.5	33.8	59.2	5.4

4 = Strongly agree 3 = Agree 2 = Disagree 1 = Strongly disagree

Table A2

The percentages of subjects' social support received from family, friends, and health professional

in each item (N= 130)

Social support	%				
	5	**4**	**3**	**2**	**1**
Family member					
Emotional support					
1. Encourage to eat the right foods	16.2	60.8	7.7	12.3	3.1
2. Joint in eating the same foods	10	24.6	21.5	30.8	13.1
3. Eat the same time as you do	11.5	26.9	23.1	24.6	13.8
4. Let you know they understand how important it is for you to eat right	16.2	43.1	14.6	16.9	9.2
Informational support					
5. Suggest foods you can eat on your meal plan	12.3	50.0	13.8	17.7	6.2
6. Give information or reading material about dietary management	10.0	28.5	18.5	13.8	29.2
7. Choosing foods that you can eat when eating out or eating at other people's house	11.5	25.4	23.1	20.0	20.0
Appraisal support					
8. Remind about sticking the meal plan	16.2	55.4	15.4	9.2	3.8
9. Tell you not to eat something that you should not	13.8	36.2	19.2	8.5	22.3
10. Tell you when you've eaten too much or too little	13.1	52.3	20.0	7.7	6.9
11. Show they are pleased when you've eaten right	17.7	43.8	17.7	15.4	5.4
Instrumental support					
12. Schedule meals at the times you need to eat	8.5	33.8	22.3	13.1	22.3
13. Cook meals for you that fit your meal plan	7.7	39.2	16.2	14.6	22.3
14. Buy special foods that you can eat	6.2	26.9	25.4	15.4	26.2
15. Do the grocery shopping for your meals	9.2	35.4	19.2	17.7	18.5
16. Give financial support	15.4	35.4	16.2	11.5	21.5

Social support	%				
	5	**4**	**3**	**2**	**1**
Friend					
Emotional support					
17. Encourage you to eat the right foods	7.7	36.2	20.0	15.4	20.7
18. Joint you in eating the same foods as you	3.1	7.7	21.5	26.9	40.8
19. Eat the same time as you do	5.4	8.5	16.9	23.1	46.2
20.Buy special foods that you can eat	1.5	9.2	17.7	21.5	50.0
Informational support					
21. Give information or reading material about dietary management	1.5	13.8	22.3	16.9	45.4
22. Suggest foods you can eat on your meal plan	5.4	20.8	26.2	22.3	25.4
23. Choosing foods that you can eat when eating out	8.5	10.0	23.8	13.9	43.8
Appraisal support					
24. Remind you about sticking to your meal plan	8.5	38.5	15.4	13.8	23.8
25.Tell you not to eat something you should not	4.6	21.5	29.2	13.8	30.8
Health professional					
Emotional support					
26. Give time to share feelings related to follow diet regimen	4.6	67.7	13.8	6.2	7.7
Informational support					
27. Explain clearly how much and what you should eat	10.0	65.4	11.5	6.9	6.2
28. Give you reading material related to dietary regimen	4.6	41.5	16.9	9.2	27.7
Appraisal support					
29. Remind you to follow dietary regimen in each your visit	12.3	66.2	10.8	4.6	6.2

5 = always 4= usually 3 = sometimes 2 = rarely 1= never

Table A3

The percentages of perceived benefits of NHPB in each item (N = 130)

Perceived benefits	%			
	4	**3**	**2**	**1**
1. Diet has important role in management of diabetes.	26.2	68.5	4.6	0.8
2. Eating high fiber foods is good for my condition.	16.9	70.0	12.3	0.8
3. Limiting high calorie food could help to keep blood glucose within a normal range.	17.7	76.9	4.6	0.8
4. My health will be better if I follow appropriate diet.	23.8	71.5	3.8	0.8
5. Moderating in eating food consisting of fat, carbohydrate, and protein may reduce the risk of diabetes complications.	15.4	80.0	3.1	1.5
6. Following meal plan keep my blood glucose stable.	20.0	75.4	3.1	1.5
7. Maintain meal plan is effective way to reduce the discomfort symptoms.	13.1	81.5	4.6	0.8
8. Eating appropriate amount of diet could control blood glucose.	19.2	76.9	3.1	0.8

4 = strongly agree 3 = agree 2 = disagree 1 = strongly disagree

Table A4.

The percentages of perceived barriers of NHPB in each item (N = 130).

Perceived barriers	%			
	4	**3**	**2**	**1**
1. I cannot arrange meal plan as busy with other activities.	3.1	29.2	65.4	2.3
2. I cannot eat low fat food as the food has not good taste.	0.0	24.6	74.6	0.8
3. I cannot select healthy diet as eating out, or having social gathering.	4.6	30	63.1	0.0
4. I have to eat what someone cooks for me.	1.5	36.2	60.8	1.5
5. I cannot afford for arranging healthy diet.	0.8	20.8	76.9	1.5
6. I eat much as I felt upset, bored, or sad.	2.3	12.3	77.7	7.7
7. I do not have knowledge in arranging my meal plan.	0.8	25.4	72.3	1,5
8. I spend a lot of energy as I work hard, so I cannot eat less.	1.5	14.6	80.8	3.1
9. I do not want to prepare food only separately for myself.	1.5	25.4	70.8	2.3
10. I have lack of support from family or friends.	1.5	15.4	75.4	7.7
11. I was unsure about kind of food	0.8	20.0	76.9	2.3
12. Eating healthy food costs too much	0.8	17.7	79.2	2.3

4 = strongly agree 3 = agree 2 = disagree 1 = strongly disagree

APPENDIX B

INFORMED CONSENT FORM

I am, Lestari Sukmarini, educator staff in Faculty of Nursing, University of Indonesia. In this time, I am conducting a research, purposing to explore the nutritional health promoting behaviors and influencing factors among type 2 diabetes patients.

I offer you to joint in this research. There is no discomfort and risks to participate or not participate without negative consequences to you. You will be asked to complete the questionnaire within 25 minutes. Please do not hesitate to ask if you have a problem in filling the questionnaire.

I will keep confidentiality, so no one can know, read, and open the data. You can withdraw from the research anytime if you want. Your signature in this form will indicate that you understand and will participate in this research without pressure from anyone.

Date: ………………

Patient   Researcher

(_____)   (_____)

Thank you very much for your participation. If you need confirmation or have questions please contact me at: Faculty of Nursing, University of Indonesia (021) 7740820-21; or Mobile phone : 081382874026.

APPENDIX C

INSTRUMENTS

Code :

Date/time :

Hospital :

Part 1: Demographic and Health Information

I will ask you some information about your personal data and disease related data. Please answer the best choice with putting mark $\sqrt{}$ (no. 2 – 8, 11, 12), and fill in the available space (no. 1, 9, 10) that is appropriate for you.

1. Age ....yr

2. Gender ☐1 male ☐2 female

3. Ethnic ☐1 Javanese ☐2 Betawinese

4. Religion ☐1 Islam ☐2 Catholic

☐3 Protestan ☐4 Buddhist

☐5 Hindu

5. Level of education ☐1 no formal education ☐2 elementary school

☐3 junior high school ☐4 senior high school

☐5 college or above

6. Marital status ☐1 single ☐2 married ☐3 widow

☐4 divorced ☐5 separate

7. Occupation ☐1 none ☐2 farmer ☐3 private employee

☐4 government employee ☐5 business person

☐6 retirement

8. Income/month ☐1 < Rp. 500.000,00

☐2 Rp. 500.000,00 – 1.000.000,00

☐3 Rp 1.000.000,00 – Rp. 2.000.000,00

☐4 Rp > 2.000.000,00

9. How many people live with you? ....

10. How long have you been diagnosed with diabetes? ....

11. Have you ever received dietary counseling from health care providers?

     ☐ 1 Yes

     ☐ 2 No

12. Have you had the following symptoms in the past month?

    a)   Excessive urination   ☐ 1 Yes   ☐ 2 No

    b)   Large fluid intake   ☐ 1 Yes   ☐ 2 No

    c)   Excessive hunger   ☐ 1 Yes   ☐ 2 No

(Item 13 – 17 filled by investigators/assessors)

13. Diabetes illness duration ……… year(s)

14. Medication : ☐ 1 Insulin

                  ☐ 2 Oral hypoglycemic agent (OHA)

                  ☐ 3 Insulin and (OHA)

15. Body weight:……….kg Height: …….m   BMI:………….kg/m2

16. Last fasting BGL: ……….   (Date: ……..)

17. Last lipid profile :   - Total cholesterol : …..

                        - HDL: ……..

                        - LDL:………

                        - Triglyceride: ………..

Part 2: Nutritional Health Promoting Behavior Questionnaire

Below are statements about your nutritional behavior related to manage your diabetes illness. Please indicate the degree to which you agree or disagree with the statements by mark (√) choices: **Strongly Agree, Agree, Disagree,** or **Strongly disagree**. There is no right or wrong answer. If you have a question, ask the person who is giving you this questionnaire.

	Statements	Strongly agree	Agree	Disagree	Strongly disagree
1	You always read the nutrition facts information on food label.				
2	You eat fruit and vegetable every day.				
3	You choose the following foods that contain low to medium glycemic index in your diet, such as: brown rice, wheat flour snacks, bran with fiber, or noodles/vermicelli; avoid high glycemic index eg. cornflakes, ice cream, candy.				
4	You choose foods containing complex carbohydrate such as brown rice, peas, bran, beans, wholemeal/brown bread, oats, potatoes.				
5	You consume high calorie fruit such as durian, or jackfruit in moderate amount.				
6	You usually limit sugar intake in your diet.				
7	You eat food that cooked by baking, boiling or steaming more often than fried food.				
8	You (or the person who cooks your food) rarely use coconut milk or oils in cooking.				
9	You take fish, soy protein more often than poultry or red meat.				
10	You avoid salty diet.				

Part 2 : Nutritional Health Promoting Behavior Questionnaire

		Strongly agree	Agree	Disagree	Strongly disagree
11	You understand and are able to arrange your right meal plan.				
12	You understand and are able to use plate method in arranging your meal within a day as follow: - 1½ plate of vegetable - a plate of meat or meat substitute - a plate of starch (eg. rice, rice noodles) - 3 glass of milk/juice, and 1 fruit. - Oils or butter sparingly				
13	You understand and are able to use serving methods in your meal plan in a day as follow: • 6-11 servings of grain group (eg. rice, bread, noodle) • 3-5 servings of vegetables • 2-4 servings of fruit • 2-3 servings of meat group (red meat, chicken, fish) • 2-3 servings of milk or yogurt • fat or oils in moderation				
14	You understand and able to use food exchange list in arranging your meal, such as • ¼ cup tempeh substituted with ½ cup tofu • 1 ounce of tuna canned substituted with 1 ounce of chicken without skin • 100 g rice substituted with 400 g / 2 cups of porridge				
15	You eat 3 meals a day.				
16	You eat meal in a same time every day.				

Part 2: Nutritional Health Promoting Behavior Questionnaire

		Strongly agree	Agree	Disagree	Strongly disagree
17	You eat a variety of foods in every meal daily include the following: ● fleshy foods (fish, chicken, or meat) ● cereals (bengali, bread, rice, ragi, riceflakes, or oats) ● low fat (groundnut, sunflower, til, or mustard oils) ● vegetables (spinach, or lettuce) ● fruits (guava, orange, lemon, melon, or papaya) ● Pulses (beans, peas, green gram)				
18	You know and able to calculate how much calories of food that you should eat.				
19	You consume the same amount of food every day.				
20	You weigh or measure calorie of food in each meal by using cup, grams/ounce, or serving sizes.				
21	You know how the amount of calorie you should take in each meal from: ● Carbohydrate, eg. fruit contains 15 g carbohydrate = 60 kcal; or 1/3c cooked rice contains 15 g carbohydrate= 60 kcal ● Protein, eg. 2 egg whites contains 7 g protein = 35 kcal ● Fat, eg. 1 teaspoon any oil contains 5 g fat = 45 kcal.				

24-hour dietary recall

Please write down what did you eat yesterday within 24 hours.

Example: Breakfast: - White rice ½ plate

- chicken 1 slice

- soup 1 cup

Type	Serving size
Breakfast	
Snack	
Lunch	
Snack	
Dinner	
Snack	

Part 3: Modified Diabetes Social Support Questionnaire (MDSSQ)

Please read each item below and indicate by marking a check (√) in the appropriate square to what extent support (Emotional =E, Instrumental = Is, Appraisal =A, Informational =If) from family members, friends and health providers to you. There are five choices for each question (**Never, Rarely, Sometimes, Usually,** or **Always**).

	How often does your family member….	Never	Rarely	Sometimes	Usually	Always
1	Encourage you to eat the right foods?					
2	Remind you about sticking to your meal plan?					
3	Schedule meals at the times you need to eat?					
4	Suggest foods you can eat on your meal plan?					
5	Join you in eating the same foods as you?					
6	Cook meals for you that fit your meal plan?					
7	Eat the same time you do?					
8	Buy special foods that you can eat?					
9	Tell you not to eat something you should not?					
10	Tell you when you've eaten too much or too little?					
11	Let you know they understand how important it is for you to eat right?					
12	Show they are pleased when you have eaten right?					
13	Give information or reading material about diet?					
14	Choose foods that you can eat when eating out or eating at other people's house?					
15	Do the grocery shopping for your meals?					
16	Give financial support?					

Part 3: Modified Diabetes Social Support Questionnaire (MDSSQ)

		Never	Rarely	Sometimes	Usually	Always
How often does your friends….						
17	Encourage you to eat the right foods?					
18	Join you in eating the same foods as you?					
19	Buy special foods that you can eat?					
20	Remind you about sticking to your meal plan?					
21	Tell you not to eat something you should not?					
22	Give information or reading material about diabetes diet?					
23	Suggest foods you can eat on your meal plan?					
24	Eat the same time you do?					
25	Choose foods that you can eat when eating together?					
How often does physician/nurse/dietician ….						
26	Remind you to follow dietary regimen?					
27	Explain clearly how much and what you should eat?					
28	Give you reading material related to dietary regimen?					
29	Give you time sharing your feelings related to follow dietary regimen?					

Part 4: Perceived Benefits of NHPB Questionnaire

Below are statements about diet for person with diabetes, which is base on the same nutrition principles that any person should have for good health. Please indicate the degree to which you agree or disagree with the statements by circling: **Strongly Agree, Agree, Disagree, or Strongly disagree.**

		Strongly agree	Agree	Disagree	Strongly disagree
1	Diet has important role in management of diabetes.				
2	Eating high fiber foods is good for my condition.				
3	Limiting high calorie food could help to keep blood glucose within a normal range.				
4	My health will be better if I follow appropriate diet.				
5	Moderating in eating food consisting of fat, carbohydrate, and protein may reduce the risk of diabetes complications such as heart disease, stroke, blindness, or renal failure				
6	Following meal plan keep my blood glucose stable.				
7	Maintain meal plan is effective way to reduce the discomfort symptom such as easy fatigue.				
8	Eating appropriate amount of diet could control blood glucose.				

Part 5: Perceived Barriers of NHPB Questionnaire

Below are statements about diet for person with diabetes, which is base on the same nutrition principles that any person should have for good health. Please indicate the degree to which you agree or disagree with the statements by circling: **Strongly Agree, Agree, Disagree, or Strongly disagree.**

		Strongly agree	Agree	Disagree	Strongly disagree
1	I cannot arrange meal plan as busy with other activities				
2	I cannot eat low fat food as the food has not good taste.				
3	I cannot select healthy diet as eating out, or having social gathering.				
4	I have to eat what someone cooks for me.				
5	I cannot afford for arranging healthy diet.				
6	I eat much as I felt upset, bored, or sad.				
7	I do not have knowledge in arranging my meal plan				
8	I spend a lot of energy as I work hard, so I cannot eat less				
9	I do not want to prepare food only separately for myself				
10	I have lack of support from family or friends				
11	I was unsure about kind of food that should be eaten				
12	Eating healthy food cost too much for me.				

APPENDIX D

List of experts

Three experts examined the content validity of the instrument for type 2 diabetes patients. They are

1. Assist. Prof. Sang-arun Isaramalai

   Nursing lecturer, Faculty of Nursing, Prince of Songkla, Thailand.

2. Dr. Wanla Tantayothai

   Diabetes Nurse practitioner at Theptarin hospital, Bangkok, Thailand.

3. Dr. Rattana Leevattana

   Medical doctor at Songklanagarind Hospital, Thailand.

weight, or serving sizes; recognize the amount of calorie taken from carbohydrate, fat, and protein, reduce consumption of high calorie fruit.

Daily Calorie Intake. Table 5 shows that carbohydrate intake was the largest source of calorie (53%), followed by fat (32%) and protein (15%). Comparing to ideal calories needed by each subjects; most of the subjects consumed total energy, carbohydrate, and fat less than requirement, but ate protein more than requirement (Table 6).

 Discussion

Subjects' Characteristics. The majority of the subjects in this study were female. This is in line with the study by Hillier and Pedulla (2001) who reported most subjects in the age group of 18 – 45 years were female (57%). Likewise, Son et al (2005) studied 144 subjects with type 2 diabetes, of whom 81% were female. In addition, Aguilar-Salinas et al. (2003) also studied 2155 type 2 diabetes Mexicans of whom 60% were female. This, therefore, indicates a higher prevalence of type 2 diabetes in females than in males.

The subjects were mostly middle aged confirming that type 2 diabetes occurs more often in adults over the age of 40, especially in populations between the ages of 35 and 64 in developing countries (WHO, 2006; Connolly et al., 2000). The illness arose in this age because of insulin resistance and impaired insulin secretion (Smeltzer & Bare, 2004) and, additionally, was associated with impaired glucose tolerance (Chang et al., 2000). Insulin resistance is the condition of decreased tissue sensitivity to insulin in which insulin cannot transfer glucose to target cells, thus resulting in an increase in blood glucose levels (Smeltzer & Bare, 2004; American Diabetes Association, 2001). Impaired insulin secretion occurs when there is a reduction in islet cell volume that beta cells fail to produce sufficient insulin resulting in a rise in blood glucose levels (Mc Dowell & Gordon, 1996).

Furthermore, obesity was identified among most of the subjects. Type 2 diabetes was also strongly related with this condition because obesity can aggravate insulin resistance as well (Smeltzer & Bare, 2004).

Over half of the subjects were well-educated. The level of education might contribute to the subjects exhibiting nutritional health promoting behaviors as this factor may facilitate a person learning about eating behavior modification. A previous study demonstrated that a higher education level was an important predictor of disease awareness enhancing compliance with healthy eating behavior (Caliskan, Ozdemir, Ocaktan, & Idil, 2005). Fifty-nine percent of the subjects had a monthly income of 1.000.000 rupiahs (USD 107) and over which was considered at the time of this study an above average income in Indonesia, where the average income of Indonesians in 2006 was approximately 590.000 rupiahs (equivalent 65 USD) (Pikiran-rakyat.com, 2006). This indicated that most of the subjects had adequate incomes and, therefore, were potentially able to improve their health status by carrying out nutritional health promoting behaviors, for instance, by being able to afford buying and preparing healthy foods.

Nutritional Health Promoting Behaviors (NHPB). A small variation of the NHPB indicated that the subjects responding to the questionnaires in the same manner. The direction and response choices provided in the NHPB questionnaires, and the subjects' culture might influence the subjects' response. The level of a global nutritional health promoting behaviors among the subjects was at a moderate level, so were its three subscales. This result was in line with the study of Chansawang & Petchratachart (2002) which revealed that the health practices of food control among diabetic patients in Namom District – Songkhla Province, Thailand were at a moderate level. The findings also revealed

that several particular behaviors were not performed by the majority of subjects which were: consuming high calorie fruits in moderate amounts; understood and were able to use serving methods; understood how to calculate food calories; and knew how many calories they should take at each meal. These indicated that health education and diet counseling regarding calorie intake, food choices and food exchange might not be relevant to the subjects' background and life style. One session of traditional health teaching or counseling might not be adequate to improve the patients' nutritional behaviors.

The subjects consumed total energy, fat, and carbohydrate less than required, but they consumed more protein than needed and recommended. This finding indicated that the subjects might have tried to substitute protein as calorie sources for fat and carbohydrate in order to reduce blood glucose. The recommended protein consumption for type 2 diabetics is 10-20% of their total daily calories (American Diabetes Association, 1998; Mc Dowell & Gordon, 1996) or 0.8 gr/kg/day (Heins & Beebe, 1996). However, many literatures explained that high protein diet (30% of protein) may help to reduce blood glucose level in type 2 diabetics since a slow conversion of protein to glucose being integrated into hepatic glycogen stores but not raise the rate of hepatic glucose release (Franz, 1997; Gannon et al., 2003). In addition, glucose from protein may not rapidly increase plasma glucose concentration but increase serum insulin response (American Diabetes Association 2007). Therefore, most of the subjects were supposedly to have a controlled blood glucose level as they consumed a high protein diet. However, the findings showed that over 50% of the subjects had fasting blood glucose more than 140 mg/dL, which indicated that their blood glucose were (still) poorly controlled (Endocrine Web's Diabetes Center, 2007). This phenomenon could be accounted for by various factors.

First, as mentioned above, most subjects had not met the appropriate amount of calorie intake as recommended; thus, an inappropriate calorie intake would cause the level of blood glucose to be unstable or abnormal. Essentially, calorie intake for type 2 diabetics should be balanced according to their personal need. Secondly, most of the subjects had been identified as incapable in understanding and calculating the amount of calories of their meals. The amount of calorie intake for such people has a great affect in altering the blood glucose levels. They were supposedly able to understand and calculate how much calories they should consume in each meal. Thus, although they tried to eliminate carbohydrate intake and substitute it for protein, this could not help to keep subjects' FBG well controlled. Lastly, a single day dietary recall used in this study might not represent the subjects' usual daily food intake. The subjects might also report the food intake less than they really did probably to impress the researcher. The actual food intake would probably explain high fasting blood sugar among the sample.

In conclusion, the subjects' NHPB level should be developed to a higher level, particularly in certain behaviors such as consuming high calorie fruits; understand and be able to use serving methods as well as calculate food calories. Innovations of DM health education and diet counseling to improve patients' nutritional behaviors are needed. This study seems to be the first study exploring nutritional health promoting behaviors of type 2 DM patients in Indonesia. A replicated study with a revised NHPB in more heterogeneous group could validate the results of the current study.

Acknowledgements

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Table 1 Frequency and percentage of subjects categorized by their demographic

characteristics (N=130)

Characteristics	Frequency	Percentage
Age (years)		
30-39	4	3.1
40-50	43	33.1
51-60	83	63.8
($\bar{X}$ = 51.97, *SD* = 5.58, Min= 33, Max= 60)		
Gender		
Male	57	43.8
Female	73	56.2
Ethnic		
Javanese	80	61.5
Betawinese	50	38.5
Religion		
Islam	114	87.7
Catholic	5	3.8
Protestan	10	7.7
Hindu	1	0.8
Marital status		
Single	1	0.8
Married	117	90
Widow	12	9.2
Level of education		
Elementary school	24	18.5
Junior high school	18	13.8
Senior high school	45	34.6
College or above	43	33.1
Occupation		
Housewife	42	32.3
Farmer	1	0.8
Private employee	16	12.3
Government employee	47	36.2

	14	10.8
Business person	14	10.8
Retirement	10	7.7

Table 1 (continued)

Characteristics	Frequency	Percentage
Income/month		
Less than Rp. 500.000,00	23	17.6
Rp 500.000,00 – Rp. 1.000.000,00	29	22.3
More than Rp1.000.000,00 – Rp. 2.000.000,00	49	37.6
More than Rp. 2.000.000,00	28	21.5
Number of people live together		
1-5	104	80
More than 5	26	20
($\bar{x}$ = 4.25, SD = 1.87, Min = 1, Max =13)		

Table 2 **Frequency and percentage of the subjects categorized by their health characteristics (N=130)**

Characteristics	Frequency	Percentage
Years since diagnose	53	40.7
Under 5 years	43	33
5-10	34	26.3
above 10 years		
($\bar{x}$ = 7.46, SD = 5.965, Min = 1, Max = 24)		
Medication		
Insulin	11	8.5
Oral hypoglycemic agent (OHA)	92	70.8
Insulin and OHA	27	20.8
Body Mass Index (BMI)		
Less than 25	64	49.2
25 and over	66	50.8
($\bar{x}$ = 25.27, SD = 4.365, Min = 16.89, Max = 42.52)		

Last fasting BGL

Less than 120 mg/dL	31	23.8
120 mg/dL and over	99	76.2

($\bar{x}$ = 161.25, *SD* = 62.346, Min = 74, Max = 402)

Table 3 Distribution and Level of NHPB and its Subscale (N= 130)

NHPB	Mean	*SD*	*CV* (%)	Skews	Average of mean	Level
Global NHPB	55.06	5.60	10	.06	2.62	Moderate
Selecting healthy diet	26.88	3.23	12	.39	2.68	Moderate
Arranging meal plan	18.47	2.20	12	-.44	2.63	Moderate
Recognizing the amount of food calorie	9.71	2.06	21	-.47	2.42	Moderate

Table 4 Percentages of the subjects according to their response to each NHPB
(N= 130)

NHPB	%			
	4*	3*	2*	1*
Selecting a healthy diet				
1. Always read the nutrition facts information	10	51.5	33.8	4.6
2. Eat fruit and vegetable every day	16.9	73.8	8.5	0.8
3. Choose food containing low to medium GI in diet	7.7	58.5	31.5	2.3

4. Choose food containing complex carbohydrate	5.4	68.5	23.8	2.3
5. Consume high calorie fruit in moderate amount	4.6	20.0	43.8	31.5
6. Limit sugar intake	14.6	68.5	14.6	2.3
7. Eat food that cooked by baking, boiling or steaming	7.7	55.4	35.4	1.5
8. Rarely use coconut milk or oils in cooking	2.3	56.9	36.9	3.8
9. Take fish, soy protein more often than poultry or red meat.	8.5	70.8	20.8	-
10. Avoid salty food.	4.6	50.8	43.1	1.5

*4 = strongly agree, *3 = agree, *2 = disagree, * 1 = strongly disagree

Table 4 (continued)

NHPB	%			
	4*	**3***	**2***	**1***
11. Understand and able to arrange right meal plan	-	76.9	20.0	3.1
12. Understand to use plate method	0.8	55.4	39.2	4.6
13. Understand and able to use serving methods	0.8	44.6	50.2	4.6
14. Understand and able to use food exchange list	1.5	53.1	41.5	3.8
15. Eat 3 meals a day	6.2	68.5	24.6	0.8
16. Eat meal in same time every day	1.5	63.8	33.8	0.8
17. Eat variety foods in every meal daily	6.2	68.5	25.4	-
Recognizing food calories				
18. Know and able to calculate calorie of food.	1.5	45.4	46.9	6.2
19. Consume the same amount of food every day.	2.3	51.5	41.5	4.6
20. Weigh or measure calorie of food in each meal by using cup, grams/ounce, or serving sizes.	1.5	46.2	47.7	4.6
21. Know how the amount of calorie you should take in each meal from carbohydrate, protein, and fat.	1.5	33.8	59.2	5.4

*4 = Strongly agree, *3 = Agree, *2 = Disagree, *1 = Strongly disagree

Table 5 Distribution of daily calorie intake of subjects estimated by 24-hour dietary recall (N=130)

	%	Mean	*SD*	Min –Max
Energy (kcal)	100	1132.71	334.03	257 -2247
Protein (cal)	15	173.28	64.11	12 – 352
Fat (cal)	32	366.21	169.10	27 – 927
CHO (cal)	53	600.33	210.46	112 – 1636

Table 6 Frequency and percentage of the subjects' classified by their 24 hours calorie intake (N= 130)

	More than requirement		Appropriate		Less than requirement	
	n	%	n	%	n	%
Energy	47	36.2	-	-	83	63.8
Protein	95	73.1	1	.8	34	26.2
Fat	54	41.5	2	1.5	74	56.9
CHO	36	27.7	2	1.5	92	70.8