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APPENDICES

Appendix A: Definition

Intervention group: People aged 40 and over in Muang municipality, Phayao province, from 13 communities. They received Diabete millitus screening due to DM-hypertension Prevention and Control Program (CPDP) or people with risk factors, one of these followings.

- Inheritable relative suffers DM i.e. parent, sibling
- Obese (BMI > 25 kg/sq.m.)
- Given birth to a newborn weighed over 4 kgs.
- Woman with abnormal pregnancy history (aborted twice or more) or experienced DM during pregnancy
- Dm initial signs i.e. polyurea, polydipsia, polyphagia / weight loss, dim, painful skin lesion

Comparison group: People aged 40 and above in Muang municipality area, Phayao province from 13 communities, who did not receive the DM screening in DPCP.

Diabetic patient attending to the program: People attending to the DM screening in CPCP and found blood sugar > 126 mg% and diagnosed DM.

DM prevention: Case finding and screening using glucostrip in population aged 40 and over, and people at risk in Muang municipality, Phayao province.

DM control: Practice of a DM patient maintaining blood sugar to or close to normal level, and the patient does not experience low blood sugar often.

Positive behavior (or required behaviors): Behaviors that when being practiced, the behaviors affect to the health condition of practitioner in positive way. These behaviors are to be promoted for regular practice and increased frequency e.g. exercising.

Negative behavior (or risk behaviors): Behaviors that when being practiced, the behaviors affect to the health condition of practitioner in negative way and causing health problem e.g. smoking, alcohol drinking, eating fatty food, etc.

Community advisor: Health staff team from Social Medical Department of Phayao hospital consisting of registered nurse, health educator, disease control official, nurse staff, social worker, and patient assistant.

Village health volunteer (VHV): People who are volunteers to screen target population in the village and live in Muang municipality, Phayao province.

Fasting blood sugar (FBS): Blood sugar level in the morning. DM patients are prohibited to eat anything but pure water at least 6 hours before the test.

Body Mass Index (BMI): BMI is positively associated with increased risk of NIDDM in both sexes in many ethnic groups.

Index of control in risk group / patient with Diabetes mellitus

	Good	Acceptable	Poor
Male (kg./sq.m.)	20 – 25	25.1 – 27 (overweight) 18 – 19.9 (underweight)	>27 (obesity) <18 (malnutrition)
Female (kg./sq.m.)	19 - 24	24.1 – 26 (overweight) 17 – 18.9 (underweight)	>26 (obesity) <17 (malnutrition)

Appendix B: Questionnaire

In-depth interview form for evaluation of Diabetes mellitus prevention and control program in Muang Municipality, Phayao Province

Form 1: The risk group

Date of collection:

<p>Description: This form consists of 3 parts</p> <p>Part 1: General information (16 item)</p> <p>Part 2: Health behavior information</p> <p>Part 3: Knowledge of Diabetes disease</p>
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Part 1: General information

Please fill your answer in the blank or check a mark in the ()

1. The name of your community
2. Sex () 1.male () 2.female
3. Age.....years
4. Marital status () 1.single () 2.married () 3.separate without a legal divorce
5. Education level
 - () 1.illiterate () 2.primary school () 3.secondary school
 - () 4.diploma () 5.bachelor degree () 6.higher degree
6. Current occupation
 - () 1.employee () 2.agriculture () 3.government official /state enterprise /retired
 - () 4.private business /commercial () 5.others
7. Monthly family income
 - () 1. $\leq 2,500$ baht () 2. $2,500 - 5,000$ baht () 3. $>5,000$ baht
8. Current body weightkg. Height.....cms.
 - BMI () 1. $< 20 \text{ kg/m}^2$ () 2. $20 - 24 \text{ kg/ m}^2$
 - () 3. $25 - 29.9 \text{ kg/ m}^2$ () 4. $> 30 \text{ kg/ m}^2$
 - BMI (Body mass index = weight (kg) / height (cm)
9. Family history DM
 - () 1.No () 2.Yes () 1.father () 3.children () 5.grandparent
 - () 2.mother () 4.blood sibling
 - () 3. Not known

10. Annual physical examination in the past 5 years (Blood, x-ray)

- 1.never
- 2.Yes, 1.annually
- 2.every other year
- 3.rarely

11. Present hypertention

- 1.none
- 2.yes

12. Initial signs of DM (can apply more than 1 choice)

- 1.none
- 2.yes, 1.polyurea
- 2.polydipsia
- 3.polyphagia / weight loss
- 4.chronic itching
- 5.painful skin lesion
- 6.dim
- 7.sexual dysfunction
- 8.ulcer / impetigo
- 9.others (.....)

Part 2: Health behavior

Please truthfully mark to indicate frequency of each activity

Practice	Usually 4 – 7 / week	Sometimes 1 - 3 / week	Never
<p>2.1 Dietary, smoking, drinking alcohol</p> <ol style="list-style-type: none"> 1. Eat more than 3 meals a day 2. Nibble between meals 3. Eat sweets e.g. toffee, sweet snacks, dessert with egg, ice cream 4. Eat sweet fruit e.g. ripe mango, durian, longan 5. Eat food with coconut milk e.g. green curry 6. Eat fatty food e.g. Hung-lay, pork with fat, deep fries, fried rice 7. Eat meat with fat e.g. pork skin, chicken skin, fat 8. Eat carbohydrate food e.g. noodle 9. Drink fruit juice, canned juice 10. Drink soft drink e.g. Coke, Pepsi, Fanta 11. Drink alcohol e.g. wine, liquor, beer 12. Drink tea, coffee, chocolate with sugar, condensed milk, or coffee-mate 13. Drink caffeine drink 14. Smoke <p>2.2 Emotional and social behavior</p> <ol style="list-style-type: none"> 15. Stressful activity 16. Moody, upset, frustrated 17. Consult, share problems to another person 18. Sleepless 19. Bored, inactive 20. Headache; one or both sides 21. Join religious activity with family 			

2.3 Exercise behavior

22. Exercise in the past 1 month

- () 1.never() 2.yes

23. Regular exercise (select only 1)

- () 1.fast walk

- () 2.jogging

- () 3.aerobic dance

- () 4.Cycling

- () 5.Swimming

- () 6.Stretching

- () 7.Other (.....)

24. Number of days in each week

- () 1.Less than 3 days a week

- () 2.Three days a week

- () 3.More than 3 days a week

25. Time duration of each exercise

- () 1.Less than 20 minutes

- () 2.Between 20 – 30 minutes

- () 3.More than 30 minutes

2.4 Drug use

26. Renal purifying drug

- () 1.never

- () 2.Used to but no longer

- () 3.yes, still use... () 1.using recently less than 1 year

- () 2.using for about 2 – 3 years

- () 3.using for over 3 years

27. Painkiller / muscle ache pill set

- () 1.never

- () 2.Used to but no longer

- () 3.yes, still use... () 1. About 1 – 3 times a week

- () 2.About 4 – 6 times a week

- () 3.Using daily

Part 3: Knowledge about DM

Mark (/) in the table as you think it is correct, incorrect, or you don't know

	Correct	Incorrect	Don't know	Researcher
<p>1. DM is a condition the body having high blood sugar</p> <p>2. DM is detectable by blood or urine test</p> <p>The following could cause DM...</p> <p>3. Genetic</p> <p>4. Obesity, lack of exercise</p> <p>Common signs of DM...</p> <p>5. Frequent urinate, in high volume</p> <p>6. Thirst, and drink a lot of water</p> <p>7. Weight loss, slimmer</p> <p>8. Always hungry and eat a lot</p> <p>People at risk of DM</p> <p>9. Parent, sibling suffer DM</p> <p>10. Considered obese</p> <p>11. Aged 40 and over</p> <p>12. Stressful, worry</p> <p>13. Hypertension</p> <p>14. Frequent infection on skin or genital</p> <p>15. Dietary and exercise can control blood sugar</p> <p>How would you suggest health practice to DM patient?</p> <p>16. Eat only when hungry</p> <p>17. Avoid eating sweets, sugar-contained food</p> <p>18. Substitute animal oil with vegetable oil</p> <p>19. Prohibit alcohol drink</p> <p>20. Patient should carry toffee to prevent low blood sugar</p>				

**DM patient interview form on knowledge and self-care practice for DM patients in
M'ang municipality, Phayao**

Part 1: Personal information

Please mark (/) in the box or fill in the blank

Date of interview.....month....., year 2000

For interviewee	Researcher
<p>1. Name (Mr./ Mrs./Miss).....Surname..... Address.....Moo.....Tumbon..... District.....Province.....</p> <p>2. Sex ()1. male () 2.female</p> <p>3. Age.....years</p> <p>4. Marital status () 1.single () 2.married () 3.widow () 4.divorced () 5.separate</p> <p>5. Education level () 1.illiterate () 2.primary school () 3.secondary school / technical college () 4.Diploma or higher () 5.Others (.....)</p> <p>6. Occupation () 1.agriculture () 2.government official / state enterprise () 3.privae business () 4.employee () 5.housewife () 6.unemployed () 7.Others (.....)</p> <p>7. Do you have a close relative suffer DM? () 1.no () 2.yes, () 1.father () 4.sibling () 2.mother () 5.grandparent () 3.daughter, son () 6.other (.....)</p> <p>8. Do you have DM initial signs? (many choices can apply) () 1.not at all () 2.yes, () 1.polyurea, ants-attractive urine () 2.polydipsia () 3.polyphagia, weight loss () 4.skin and genital itch () 5.muscle pain, numb at feet and hands () 6.dim sighted, need to change spectacles often () 7.sexual dysfunction () 8.often develop wound or inflammation () 9.other (.....)</p> <p>9.Current body weight.....kg .Height.....cms. BMI () 1 < 20 kg/m² () 2 20-24 kg/m² () 3 25-29.9 kg/m² () 4 > 30 kg/m²</p>	

Part 2: Knowledge about DM

The interviewer reads the content an item after another, please listen carefully to each of them and reply, to your understanding, whether it is correct or incorrect. If you are not certain or do not know, please respond as ' do not know '. PLEASE DO NOT GUESS.

No.	For interviewer	Correct	Incorrect	Not know	Researcher
1	DM is a condition of abnormally high blood sugar				
2	DM patient has blood sugar 70 – 120 mg%				
3	DM complications are easy infection, blackout from excessive blood sugar				
4	DM patient who take DM pills together with exercise and diet control can reduce blood sugar				
5	Weight control, avoid sweet food is the prevention from DM				
6	Early detection of DM is from urine or blood test				
7	To control blood sugar is only taking pills and injection				
8	Obesity, stress, no exercise, frequent pregnancy are causes of DM				
9	Weight loss, fatigue, polydipsia, polyphagia but slimmer, polyurea and ants-attracted are DM signs				
10	Dim sighted, muscle pain, numb at hands and feet, itchy face are DM signs				

No.	For interviewer	Correct	Incorrect	Not know	Researcher
11	People aged 40 and over has a risk factor				
12	DM patient drinking beer, alcohol, liquor can reduce blood sugar				
13	When dizzy, sweat, fainting, must eat sweets				
14	DM patient often found heart disease, nypertension, and renal complications				
15	DM is not curable				
16	To maintain normal blood sugar level enables a normal living				
17	DM pill should be taken 30 minutes before meal				
18	DM patient should eat often but little at a time				
19	DM patient can have honey				
20	DM could be cured by herbs				

Part 3: DM patient practice

Please mark in the table to identify frequency of each practice

DM patient practice	4 – 7 days a week	1 – 3 days a week	Never done
<p>3.1 Dietary behavior smoking and alcohol drinking</p> <ol style="list-style-type: none"> 1. Eat 3 meals at a same or close time of each day 2. Eat between meals 3. Avoid sweets when knowing blood sugar risen 4. Drink sweet drinks e.g. carbonated, fruit juice, etc. 5. Eat very sweet fruits e.g. rambutan, grape, sugar apple, durian, ripe mango, preserved fruit 6. Eat salty food 7. Eat green vegetable 8. Eat sweets e.g. toffee, plum, coconut milk-contained deserts, and egg-contained deserts 9. Eat coconut-contained food e.g. curry 10. Eat food cooked with animal oil 11. Eat dried beans 12. Eat fatty meat, skin, brain 13. Drink alcohol e.g. liquor, wine, beer 14. Drink tea, coffee, chocolate with sugar, condensed milk or coffee-mate 15. Smoke <p>3.2 Practice for treatment</p> <ol style="list-style-type: none"> 16. Take pills, injection as prescribed by doctor 17. Punctually take pills, injection 18. Forget to take pills, injection 19. Decrease dose or stop taking on your own 20. Buy DM pills on your own 21. Take double dose after forgetting to take once 22. Buy drug on your own when sick 			

DM patient practice	4 – 7 days a week	1 – 3 days a week	Never done
<p>3.2 Practice for treatment</p> <p>23. Take pills, injection as prescribed by doctor</p> <p>24. Punctually take pills, injection</p> <p>25. Forget to take pills, injection</p> <p>26. Decrease dose or stop taking on your own</p> <p>27. Buy DM pills on your own</p> <p>28. Take double dose after forgetting to take once</p> <p>29. Buy drug on your own when sick</p> <p>30. Physical examination elsewhere without notifying your DM to the doctor</p> <p>31. See doctor at appointment</p> <p>32. Use herbs together with doctor's regimen</p> <p>3.3 Feet care practice</p> <p>33. Wash and wipe dry your feet</p> <p>34. Wear socks and sandals in the house</p> <p>35. Wear socks and covering shoes when go out</p> <p>36. Wear proper sized shoes</p> <p>37. Use sharp tools for feet nail cut</p> <p>38. Feet condition self-check</p> <p>39. Feet exercise</p> <p>3.4 Emotional and social behavior</p> <p>40. Facing situation causing stress</p> <p>41. Upset, moody, frustrate</p> <p>42. Share problems with others</p> <p>43. Sleepless</p> <p>44. Bored, inactive</p> <p>45. One or both side headache</p> <p>46. Join in religious activity with family member</p> <p>47. Relax when feeling stress</p>			

3.5 Exercise behavior

48. Exercise in the past 1 month

() 1. never (End the interview) () 2. yes

Appendix C: Screening for diabetes mellitus

General principle

Purpose : To detected cases of disease earlier than they would normally come to the attention of health care provider, with a view to improving outcome.

Choice of population :

- Volunteers.
- General population.
- High – risk subgroups.
- High – risk individuals.

Choice of tactics:

- Routine or “ campaign”.
- Single – or multiple-disease strategy.

Choice of test:

- Sensitive (i.e. few false- negatives) if missing a case would have serious consequences.
- Specific (i.e. few false- positive) if a mistaken diagnosis would have serious consequences.

Source : Adapted, with permission, from king H. Further epidemiology. In : Processing of the Japan- US diabetes epidemiology training course. Tokyo, Shinohara Publishers,1992:17-20 (Japan Diabetes Foundation Publication Series NO.1)

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