

Questionnaire Form and Frailty Screening Method: Project NO. PRP6005021700

Instructions: Ask participant the following statements and fill out the form by placing a check mark (✓) in the appropriate box (☐)

Section 1 : General information and Health assessment

1. Age years

2. Sex ☐ 1. Male ☐ 2. Female

3. Marital status ☐ 1. Single ☐ 2. Married/ living with partner

☐ 3. Divorced ☐ 4. Separated ☐ 5. Widowed

4. Do you now, or have you ever had, any of the following diseases or medical problems that was being diagnosed by physicians? (Can be checked (✓) more than one)

1. Cancer/Tumor ☐ 1. Y; Location ☐ 0. N

2. High blood pressure ☐ 1. Y ☐ 0. N

3. Cardiovascular diseases ☐ 1. N ☐ 0. N

(MI, Angina, Heart failure, etc.)

4. Diabetes ☐ 1. Y ☐ 0. N

5. Hypercholesterolemia ☐ 1. N ☐ 0. N

6. Asthma or Chronic lung disease ☐ 1. Y ☐ 0. N

7. Osteoarthritis ☐ 1. Y ☐ 0. N

8. Osteoporosis ☐ 1. Y ☐ 0. N

9. Stroke ☐ 1. Y ☐ 0. N

10. Others ☐ 1. Y; Please specify..... ☐ 0. N

5. Do you now, or have you ever had drinking an alcohol?

☐ 1. Y; At present ☐ 2. Y; In the past ☐ 3. N; Never

6. Do you now, or have you ever had Smoking?

☐ 1. Y; At present ☐ 2. Y; In the past ☐ 3. N; Never

7. Depression symptom screening (2Q depression rating scale)

During the last month, have you often.....?

(If checked N for both 2Q questions, skip 9Q assessment and move to section 2)

...1 been bothered by feeling down, depressed or hopeless ? ☐ 1.Y ☐ 0. N

...2 been bothered by having little interest or pleasure in doing things ? ☐ 1.Y ☐ 0. N

(Answering yes to either of these questions is considered a positive test result, warranting further 9Q assessment)

8. 9Q depression rating scale questionnaire

Over the <i>last 2 weeks</i> , how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly everyday
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling/staying asleep, sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself or that you a failure or have let yourself or family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite; being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

Total 9Q score Points, Interpretation of 9Q rating scale;

No or very mild depressive symptoms (<7 points)

Mild Depression (7-12 Points)

Moderate Depression (13-18 Points)

Severe Depression (\geq 19 Points)

***** If severe depression (\geq 19 Points) exclude from the study**

1. Proceed

0. Excluded from the study

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Section 2 : General physical examination (examined by physicians)

1. Weight kg.

2. Height cm. Calculated BMI = (kg/m²)

3. Heart rate bpm.

4. Blood pressure mmHg.

Section 3: MMST10; Mini-Mental State Examination-Thai version

Instructions: Ask the questions in the order listed. Score one point for each correct response within each question or activity

Educational levels of the participants:

- 1. Lower than primary school/ cannot read or write in Thai
- 2. Primary school education
- 3. Higher than primary school education

(For subject who categorised in non-education; do not ask the question no.4, 9 and 10)

1. Orientation for time (5 points)

(Total points)

- 1.1 What is the date today? 1. Correct 0. Incorrect
- 1.2 What is the day of the week? 1. Correct 0. Incorrect
- 1.3 What is the month? 1. Correct 0. Incorrect
- 1.4 What is the year? 1. Correct 0. Incorrect
- 1.5 What is the season? 1. Correct 0. Incorrect

2. Orientation for place (5 points)

(Total points)

- 2.1 Where are we now: no.of the address? 1. Correct 0. Incorrect
- 2.2 Where are we now: name of the road/area 1. Correct 0. Incorrect
- 2.3 Where are we now: district/sub-district? 1. Correct 0. Incorrect
- 2.4 Where are we now: town/city/province? 1. Correct 0. Incorrect
- 2.5 Where are we now: region part? 1. Correct 0. Incorrect

3. Registration The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them.

The patient’s response is used for scoring.

The examiner repeats them until patient learns all of them, if possible. (3 Points)

(Total points)

4. Attention/Calculation (5 points, 1 point/correct answer)

(Total points)

- “I would like you to count backward from 100 by sevens”

..... (93) (86) (79) (72) (65)

- Alternative question – “Spell MANOW (Lemon in Thai language) backwards”

..... (จ/W) (1/O) (น/N) (๕/A) (ม/M)

5. Recall “Earlier I told you the names of three things. Can you tell me what those were?” (3 points) (Total points)

6. Naming Show the patient two simple objects, such as a glasses and a belt, and ask the patient to name them.

(2 points)

(Total points)

7. Repetition “Repeat the phrase: ใคร ใคร ขาย ไข่ไก่ (who want to sell the chicken egg; Thai phrase)”

(1 points)

(Total points)

8. Verbal command Take the paper in your right hand, fold it in half, and put it on the floor.”

(The examiner gives the patient a piece of blank paper.)

(1 point/instruction: maximum 3 points)

(Total points)

9. Written command “Please read this and do what it says.” (Written instruction is “Open your mouth.”)

(1 point)

(Total points)

10. Writing “Make up and write a sentence about anything.” (This sentence must contain a noun and a verb)

(1 point)

(Total points)

Interpretation of the MMST10: Suspected cognitive impairment

1. Yes

0. No

Interpretation (based on educational-levels)	Score	
	Total	Cut off score
Abnormal for “non-education (cannot read or write)”	22 (Do not ask the question No. 4, 9, 10)	≤ 14
Abnormal for “primary school education”	29	≤ 17
Abnormal for “higher than primary school education”	29	≤ 22

Section 4: Screening method for frail and non-frail participant (Fried’s phenotype criteria)

1. Weight loss phenotype

Weight **in the past year** kg.

Weight **in the current year** kg.

(If the participant cannot remember the past year’s weight: use the approximate self-reported weight loss)

“The participant has loss/or gain weight for kg. / for the past year”

Interpretation Weight loss more than 4.5 kg.

1. Yes

2. No

2. Exhaustion phenotype

Based on 2 questions adapted from Center for Epidemiological Studies Depression (CES-D) Scale

Question / Scoring	0 = Fatigue or exhaustion felt rarely or not at all (less than one day in the past week)	1 = Fatigue or exhaustion somewhat felt at the time (1-2 days in the past week)	2 = Fatigue or exhaustion frequently felt at the time (3-4 days in the past week)	3 = Fatigue or exhaustion felt most of the time (more than 4 days in the past week)
2.1 “How often in the past week that you felt everything you did was an effort”				
2.2 “How often in the past week that you felt could not get going doing everything”				

Interpretation Self-reported **Exhaustion (Exhaustion sum score)**

1. Yes (More than 2 points)

2. No (0-1 point)

3.Low physical activity phenotype: Global Physical Activity Questionnaire (GPAQ)

Question	Answer	Code
Physical activities at work		
1 Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like (carrying or lifting heavy loads, digging or construction work) for at least 10 minutes continuously?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No <i>(If No, go to P4)</i>	P1
2 In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Days a week	P2
3 How much time do you spend doing vigorous-intensity activities at work on a typical day?	.....hrs.....mins	P3 (a-b)
4 Does your work involve moderate-intensity activity that causes small increases in breathing or heart rate such as brisk walking (or carrying loads) for at least 10 minutes continuously?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No <i>(If No, go to P7)</i>	P4
5 In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Days a week	P5
6 How much time do you spend doing moderate-intensity activities at work on a typical day?	.....hrs.....mins	P6 (a-b)
Question about the usual way you travel to and from places		
The next questions exclude the physical activities at work that you have already mentioned. Now i would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship.		
7 Do you walk or use a bicycle (pedal cycle) for at least 10 minutes continuously to get to and from places?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No <i>(If No, go to P10)</i>	P7
8 In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Days a week	P8
9 How much time do you spend walking or bicycling for travel on a typical day?	.....hrs.....mins	P9(a-b)
Questions about sports, fitness and recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now i would like to ask you about sports, fitness and recreational activities (leisure)		
10 Does you do any vigorous-intensity sports, fitness or recreational (leisure) activities that causes large increases in breathing or heart rate like (running or football) for at least 10 minutes continuously?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No <i>(If No, go to P13)</i>	P10

11	In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational (leisure) activities?	Days a week	P11
12	How much time do you spend doing vigorous-intensity sports, fitness or recreational (leisure) activities on a typical day?	.....hrs.....mins	P12 (a-b)
13	Does you do any moderate-intensity sports, fitness or recreational (leisure) activities that causes small increases in breathing or heart rate such as brisk walking (cycling, swimming, volleyball) for at least 10 minutes continuously?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No <i>(If No, go to P16)</i>	P13
14	In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (leisure) activities?	Days a week	P14
15	How much time do you spend doing moderate-intensity sports, fitness or recreational (leisure) activities on a typical day?	.....hrs.....mins	P15 (a-b)
Question about sitting or reclining activities			
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent (sitting at a desk, sitting with friends, travelling in car, bus, train, reading, playing cards or watching television), but do not include time spent sleeping			
16	How much time do you usually spend sitting or reclining on a typical day?	.....hrs.....mins	P16 (a-b)

Calculation: Physical activity Kcal (GPAC)

Interpretation: low physical activity 1. Yes 2. No

Low physical activity = male ≤ 383 Kcal female ≤ 270 Kcal
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4. Slow walking speed phenotype

This test measures the walking time over a distance of 15 feet. (4.57 meters)

walk time over **4.57 meters (WS)** = second

Interpretation: Slow walking speed 1. Yes 2.No

Interpretation of results takes into account sex and height:			
male	Height ≤ 173 cm.	Slow walking speed if	WS ≥ 7 seconds
	Height > 173 cm.	Slow walking speed if	WS ≥ 6 seconds
female	Height ≤ 159 cm.	Slow walking speed if	WS ≥ 7 seconds
	Height > 159 cm.	Slow walking speed if	WS ≥ 6 seconds

5. Decrease grip strength phenotype:

Measurement protocol Weakness was determined by grip-strength, which was measured three times on the subject's dominant side (for 3-5 seconds) with a digital hand grip dynamometer. The highest recorded value of grip-strength was taken as the maximal value.

1st time kg. 2nd time kg. 3rd time kg.

Hand grip dynamometer (**Highest recorded value**) = kg.

Interpretation: Decrease Grip strength 1. Yes 2. No

Grip-strength dynamometer is interpreted based on sex and body mass index (BMI) taking into an account.

Sex	Interpreted as decrease grip strength when the value (kg) is
Men	
BMI ≤ 24 kg/m ²	< 29
24 < BMI ≤ 28 kg/m ²	≤ 30
BMI > 28 kg/m ²	≤ 32
Women	
BMI ≤ 23 kg/m ²	< 17
23 < BMI ≤ 26 kg/m ²	≤ 17.3
26 < BMI ≤ 29 kg/m ²	≤ 18
BMI > 29 kg/m ²	≤ 21

Interpretation of frailty phenotypes: overall frailty score (Total 5) Point

- Frail (Subject met 3 or more of the criteria)**
- Pre-frail (Subject met 1 or 2 of the criteria)**
- Non-frail (Subject met none of frail phenotypic criteria)**