





FINGER MODEL

To prevent cognitive impairment and disability among older people

What is FINGER?

OPERATIONAL MODEL TO PREVENT COGNITIVE IMPAIRMENT

Number of people with dementia is rapidly increasing. Dementia is a multifactorial condition, and the most important risk factor is high age. However, adopting healthier lifestyle can help in preventing dementia. Finnish Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) showed that by modifying lifestyle into healthier direction, it is possible to maintain cognitive abilities and prevent cognitive decline among at-risk older adults. FINGER study serves as a practical model for the prevention of dementia with lifestyle counselling, which can be implemented into primary health care and community setting.

To Whom?

PERSONS WITH INCREASED RISK FOR COGNITIVE DECLINE

In FINGER, the multidomain lifestyle intervention was targeted to persons with increased risk for dementia. By identifying persons at-risk, it is possible to increase the benefits and cost-effectiveness of the intervention, but the FINGER model is suitable for all.

How to recognize persons in need of intervention?

HOW TO ESTIMATE THE DEMENTIA RISK?

Among middle-aged persons, risk for dementia can be estimated using a simple risk assessment tool, the CAIDE risk score, which is presented below.

RISK FACTOR	CUT-OFF SCORE	RISK SCORE
Age	< 47 years	0
	47–53 years	3
	> 53 years	4
Education (years)	<u>></u> 10 years	0
	7–9 years	2
	o–6 years	3
Sex	Woman	0
	Man	1
Systolic blood pressure	<u><</u> 140 mmHg	0
	> 140 mmHg	2
ВМІ	≤ 30 kg/m²	0
	> 30 kg/m²	2
Total cholesterol	<u><</u> 6,5 mmol/l	0
	> 6,5 mmol/l	2
Physical activity	Active	0
	Inactive	1

TEST RESULT	Risk for dementia in 20 years (%)
o-5	1
6–7	1,9
8–9	4,2
10-11	7,4
12-15	16,4

If the risk score is 6 or more, a person should be encouraged to engage in a FINGER type multidomain intervention program.

FINGER OPERATIONAL MODEL TO SUPPORT COGNITIVE CAPACITY

Start early. Identify persons at risk by using risk test



Identify and evaluate personal risk factors



Plan multidomain intervention including four main components (exercise, diet, cognitive activity and vascular risk factor monitoring)



Provide group activities to support social activity

Provide motivation and support

Keep positive attitude Highlight the benefits



Support the maintenance, follow up the progression, and evaluate the results of the intervention

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HOW TO PROCEED AFTER RISK ASSESSMENT?

Each person's risk profile is different. It is important to take into account individual needs and goals. Because of the multifactorial nature of dementia, it is important to target several risk factors simultaneously. FINGER operational model includes individual and group activities in four main intervention components.

STRENGTH TRAINING AND AEROBIC EXERCISE

Diverse physical activity should include both muscle training (1–3 times per week) and aerobic exercises (2–5 times per week). Training should be individually tailored and progressive. Exercises to improve postural balance should be included. It is important to select exercises that motivate and support mental wellbeing and social activity. Safety issues should be taken into account.

HEALTHY DIETARY PATTERNS

Healthy diet can protect brain as well as blood vessels. Diet should be rich in fruits and vegetables, wholegrain cereal products, and fish. Low-fat options should be chosen in milk and meat, and aim should be to lower sugar and salt consumption. Vegetable oils are recommended instead of butter. Even small changes make the difference.

COGNITIVE ACTIVITY

Memory needs long-term, regular and challenging activity. Learning new things and engaging in hobbies that support also mental wellbeing and social activity are good for the brain. Listening to and playing music, learning new languages, reading and playing games are all cognitively stimulating activities.

MONITORING CARDIOVASCULAR RISK FACTORS

Management of cardiovascular and metabolic risk factors should be based on national evidence-based guidelines. Regular measurements of blood pressure, blood sugar and cholesterol level are recommended.

Integrate dementia prevention to existing cardiovascular and diabetes prevention programs as underlying risk factors are shared.

PERSONALIZED FINGER OPERATIONAL MODEL:

My risk score and date:
My plan to modify factors that increase my own dementia risk:
Why am I motivated to do these changes?
When and where will my progress be followed up?

Additional information

Ngandu T, et al. Lancet. 2015 Jun 6;385(9984):2255-63.

Kivipelto M, et al. Alzheimers Dement. 2013 Nov;9(6):657-65.

https://wwfingers.com/