
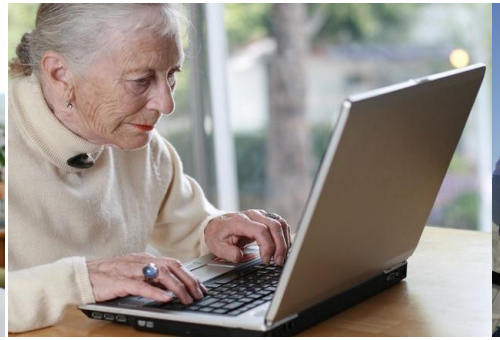


NUTRIÇÃO NO IDOSO - CONTRIBUTO DO PROJETO PERSSILAA

Tânia Gonçalves Albuquerque, Helena S. Costa

Encontros com Ciência no DAN

18 de Março de 2016

REPÚBLICA PORTUGUESA
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Instituto Nacional de Saúde Doutor Ricardo Jorge

Outline

- PERSSILAA project
- WP3 - Service modules
- Task 3.3.1 - Nutrition
- Older people and nutrition
- NUTRIAGEING Website

PERSSILAA

SEVENTH FRAMEWORK PROGRAMME

PERsonalised ICT Supported Service for Independent Living and Active Ageing

Grant agreement n.º 610359

Coordinator: Prof. Dr. Miriam Vollenbroek-Hutten
University of Twente, Netherlands

Duration: 3 years

Funding: Seventh Framework Programme

https://perssilaa.com/

8 Partners - 5 Countries

PERSSILAA CONSORTIUM

Universiteit Twente (Coordinator)- Netherlands

Roessingh Research and Development (RRD)- Netherlands

Federico II Hospital (FOUND)- Italy

Foundation of the Faculty of Sciences of the University of Lisbon (FFCUL)- Portugal

University College Cork (UCC)- Ireland

Universidad Politécnica de Madrid (UPM)- Spain

The Fundació Privada Institut de Neurorehabilitació Guttmann (FPING)- Spain

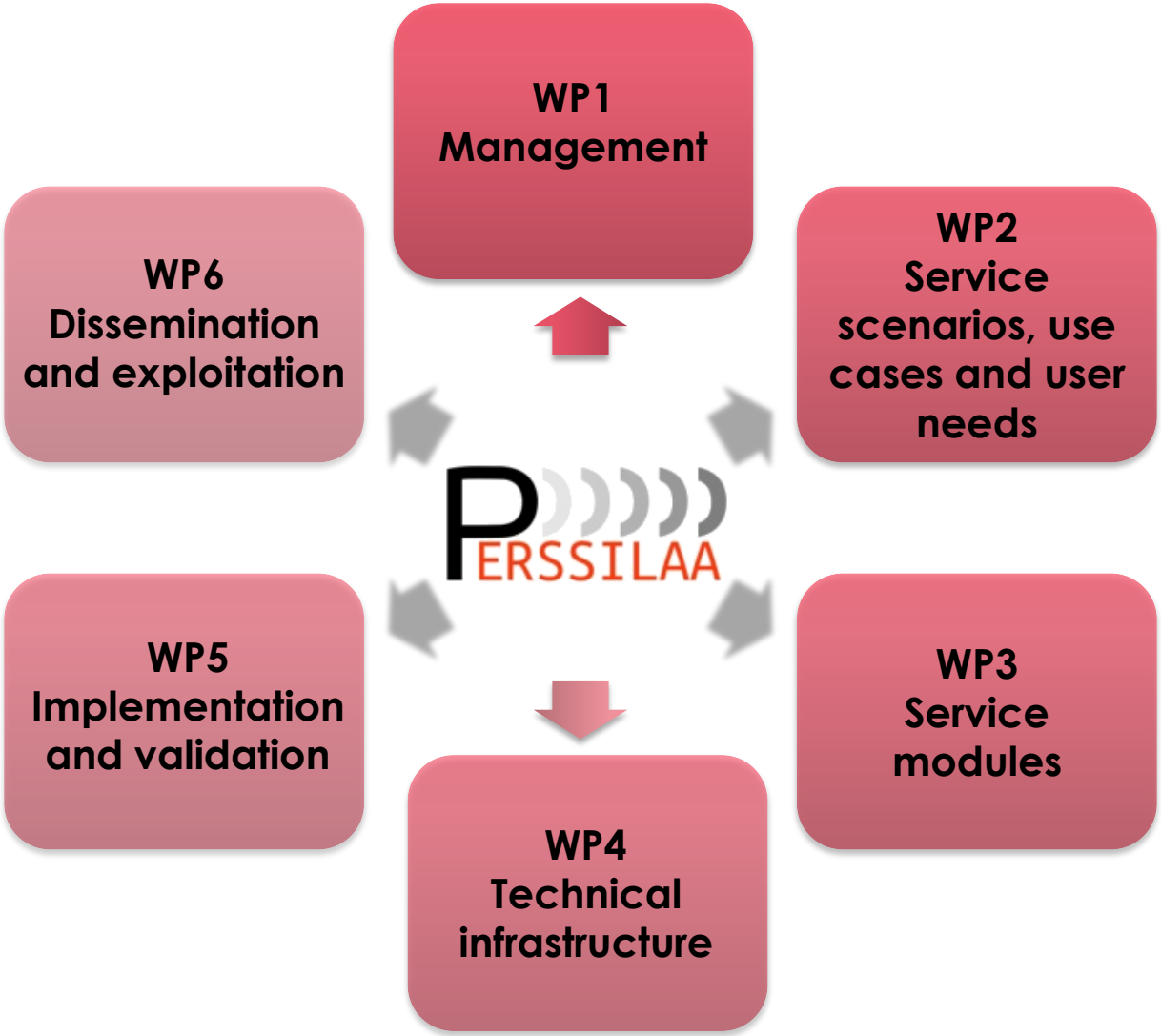
Nexera

Aim

To develop and validate a new service model, to screen for and prevent frailty in community dwelling older adults, integrating nutrition, physical and cognitive function.

- Screening - easy to use tools to get an overall picture of a person's health status.
- Monitoring - unobtrusive monitoring of everyday functioning.
- Training - remotely available health promotion programs.

Structure


WP1
Management
WP2
Service scenarios, use cases and user needs
WP3
Service modules
WP4
Technical infrastructure
WP5
Implementation and validation
WP6
Dissemination and exploitation
PERSSILAA

WP3 - Service Modules

Project Number [1]	610359	Project Acronym [2]	PERSSILAA

One form per Work Package

Work package number [53]	WP3	Type of activity [54]	RTD
Work package title	Service modules		
Start month	1		
End month	33		
Lead beneficiary number [55]	4		

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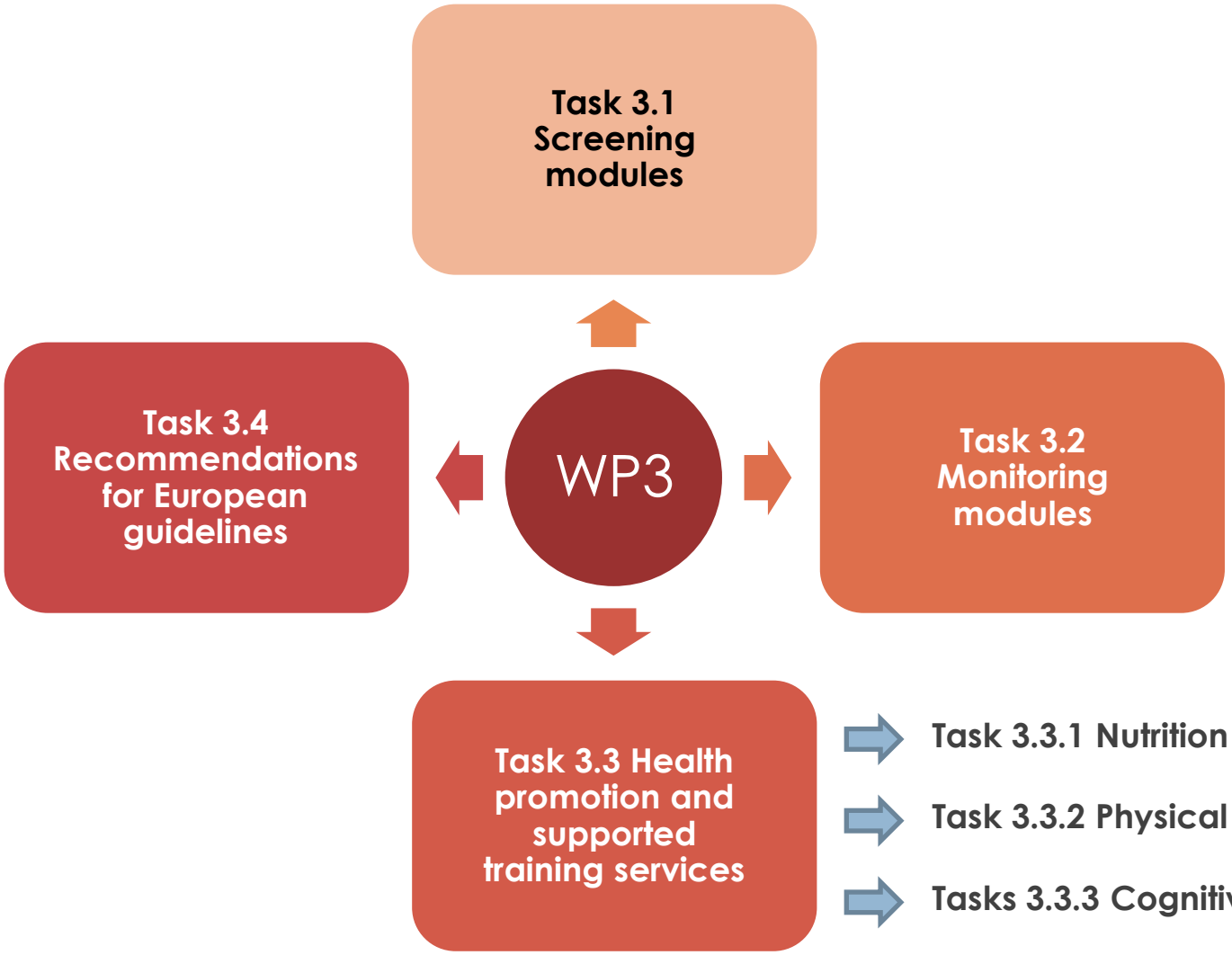
WP3 - Service Modules



TASK 3.3 - HEALTH PROMOTION AND SUPPORTED TRAINING SERVICES

To develop training services to promote healthy behaviour in terms of healthy nutrition, physical activities and cognitive stimulation and can be offered via various service configurations; such as a health literacy program, health promoting self management tools or as (in)formal care supported service.

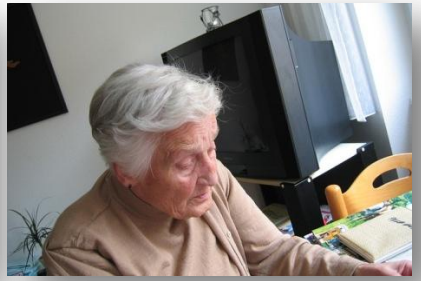
TASK 3.3.1 - NUTRITION

To develop an interactive website that offers 15 modules

How to make healthier choices and improve food habits

Provide tools to allow people to easily evaluate themselves






Why for older?

In 2002 there were an estimated 605 million older persons in the world, nearly 400 million of whom were living in low-income countries. Greece and Italy had the highest proportion of older persons (both 24% in 2000).

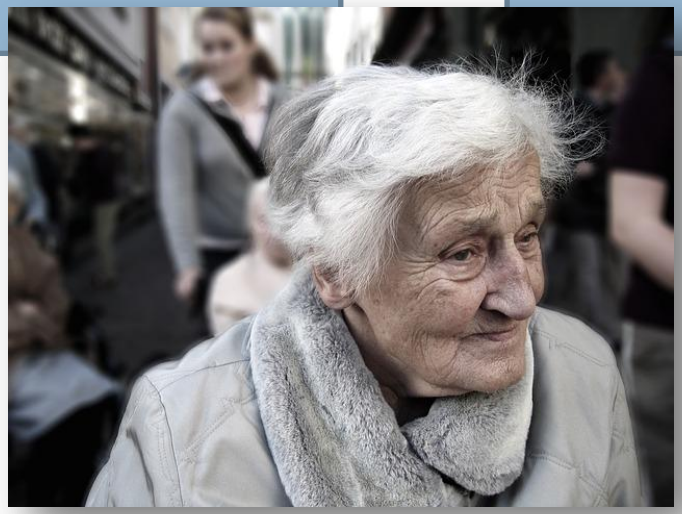
By 2025, the number of older persons worldwide is expected to reach more than 1.2 billion, with about 840 million of these in low-income countries.

Why nutrition for older?

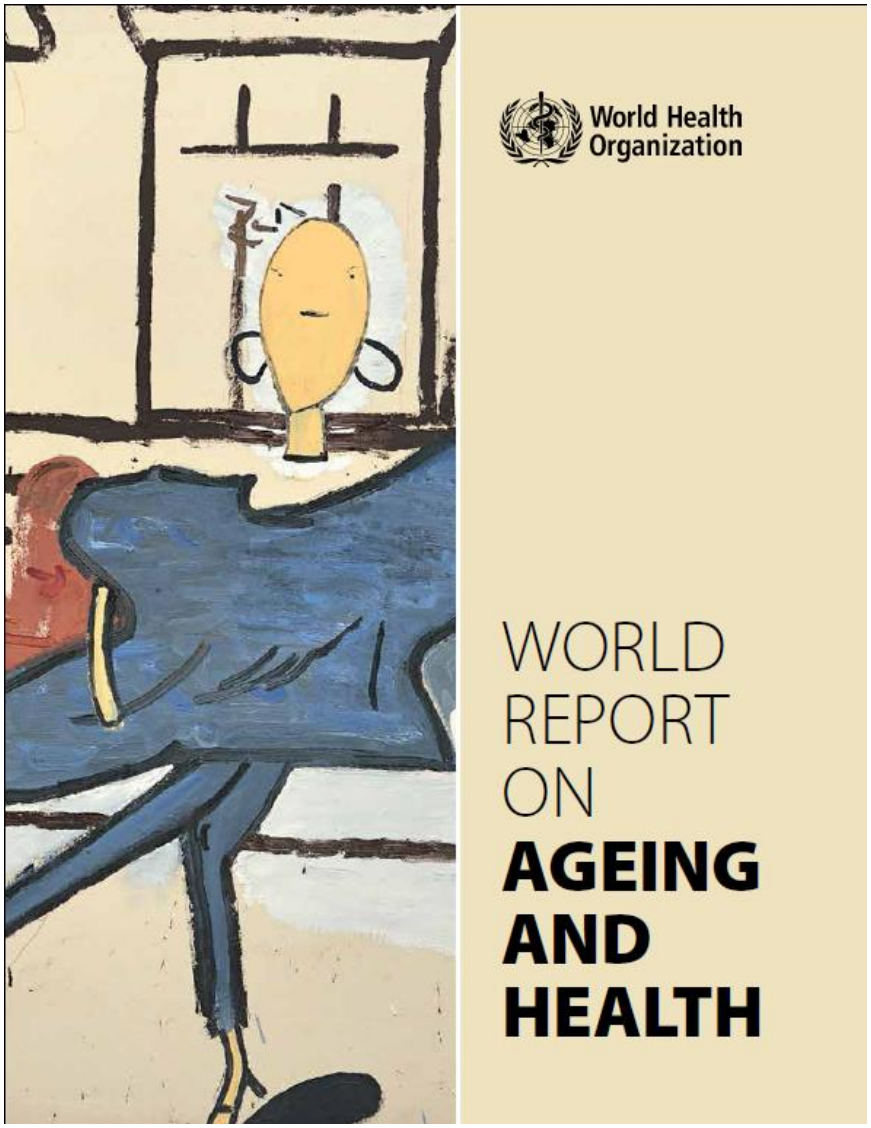
Older persons are particularly vulnerable to malnutrition

Nutritional requirements are not well defined

Physiological changes can negatively impact nutritional status



World Health Organization



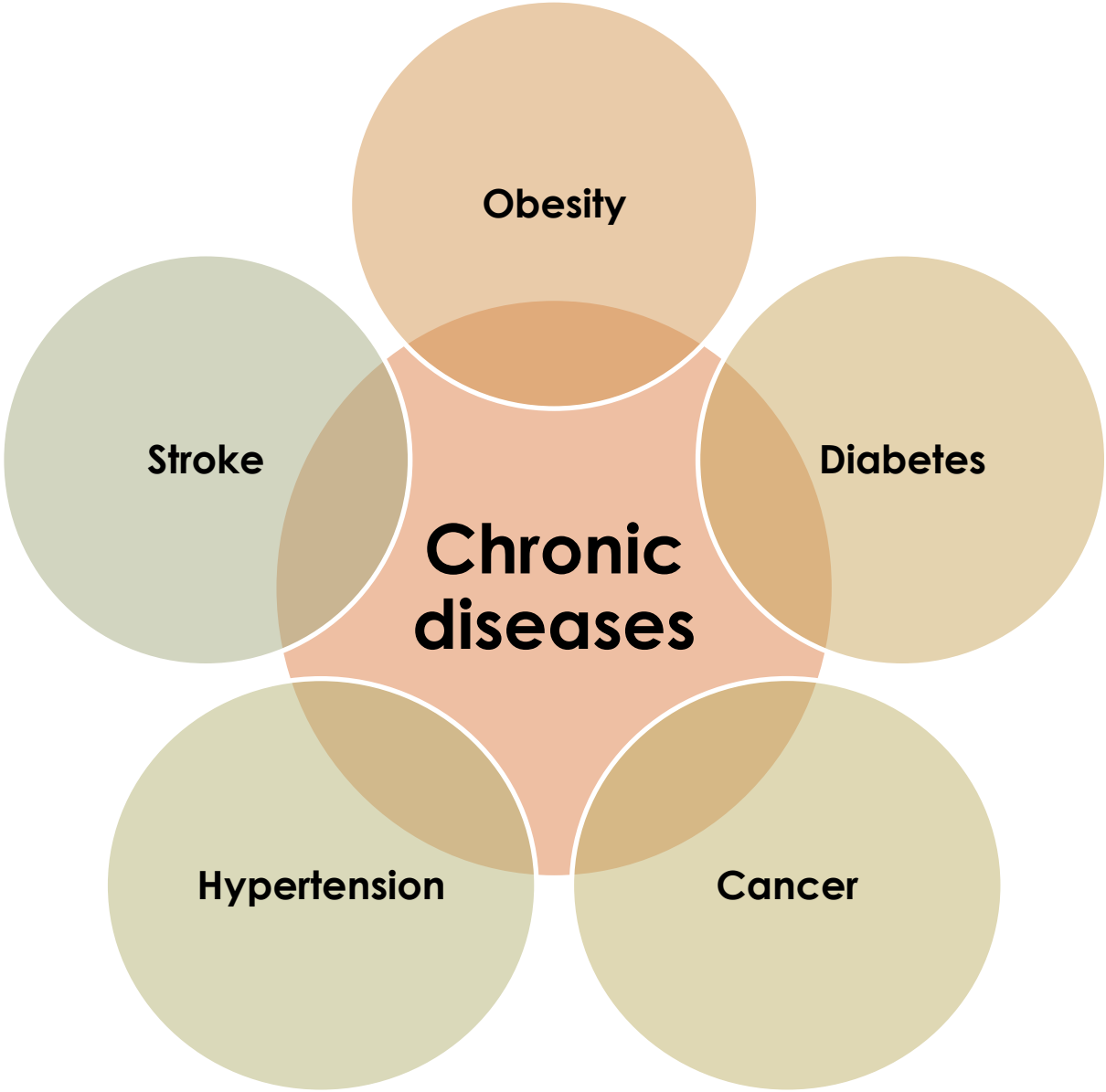
Key behaviours that influence *Healthy Ageing*

- Physical activity
- Nutrition

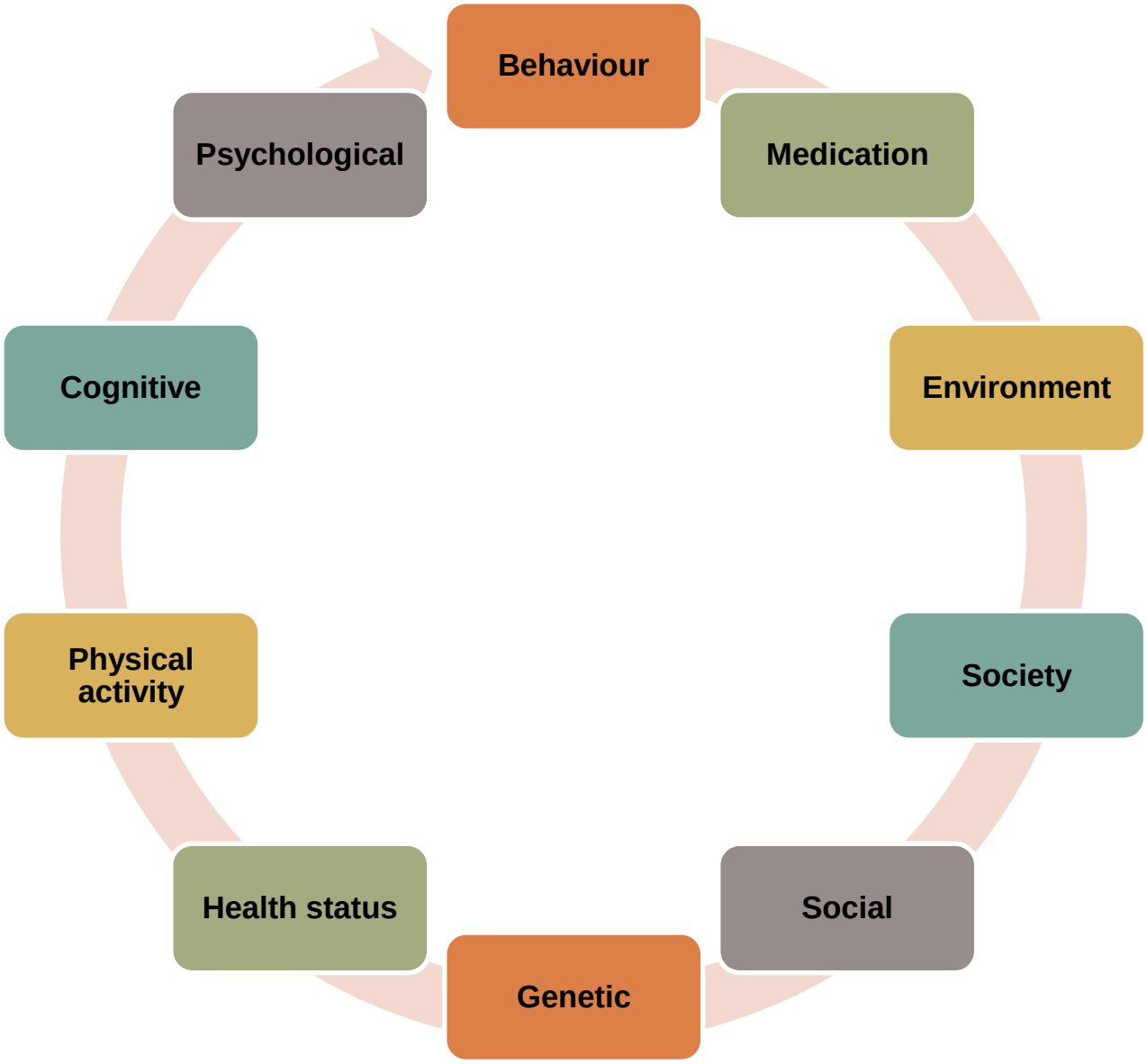
"Indeed, even in very advanced years, physical activity and good nutrition can have powerful benefits for health and wellbeing."

"Interventions aimed at improving nutrition may also be beneficial, but evidence is limited"

Chronic diseases in older people



Risk factors in older people



NUTRIAGEING WEBSITE

http://nutriageing.fc.ul.pt/

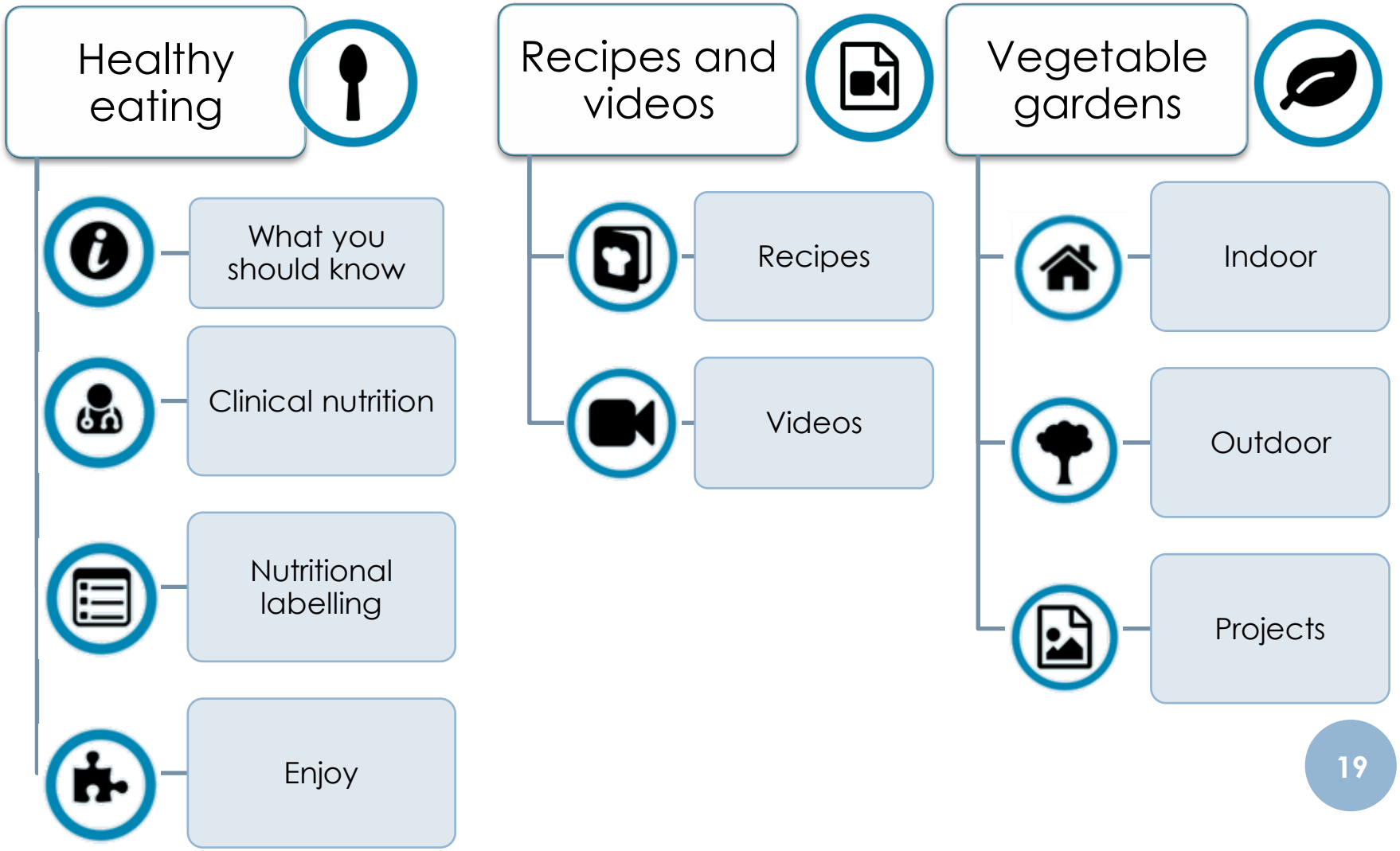
Easy-to-use Website

- Informative website
- Very clean, easy-to-use, *app-like* interface
- Responsive layout, automatically adapting to different devices…

… computer

… and tablet or phone

NUTRIAGEING MAIN SECTIONS



Healthy eating


What you
should know

WHAT YOU SHOULD KNOW?

What you should know

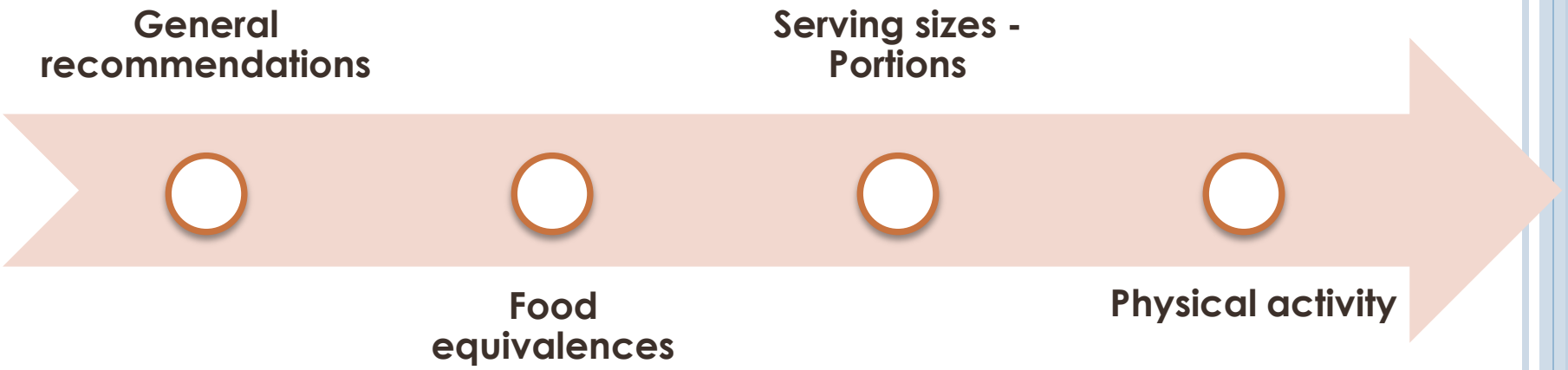
Nutritional education of the population is extremely important, especially for elder people.

Its main aim is to seek a general improvement of nutritional status by promoting proper and healthy eating habits thus eliminating an inadequate diet, introducing best practices of food hygiene and a more efficient use of food resources.

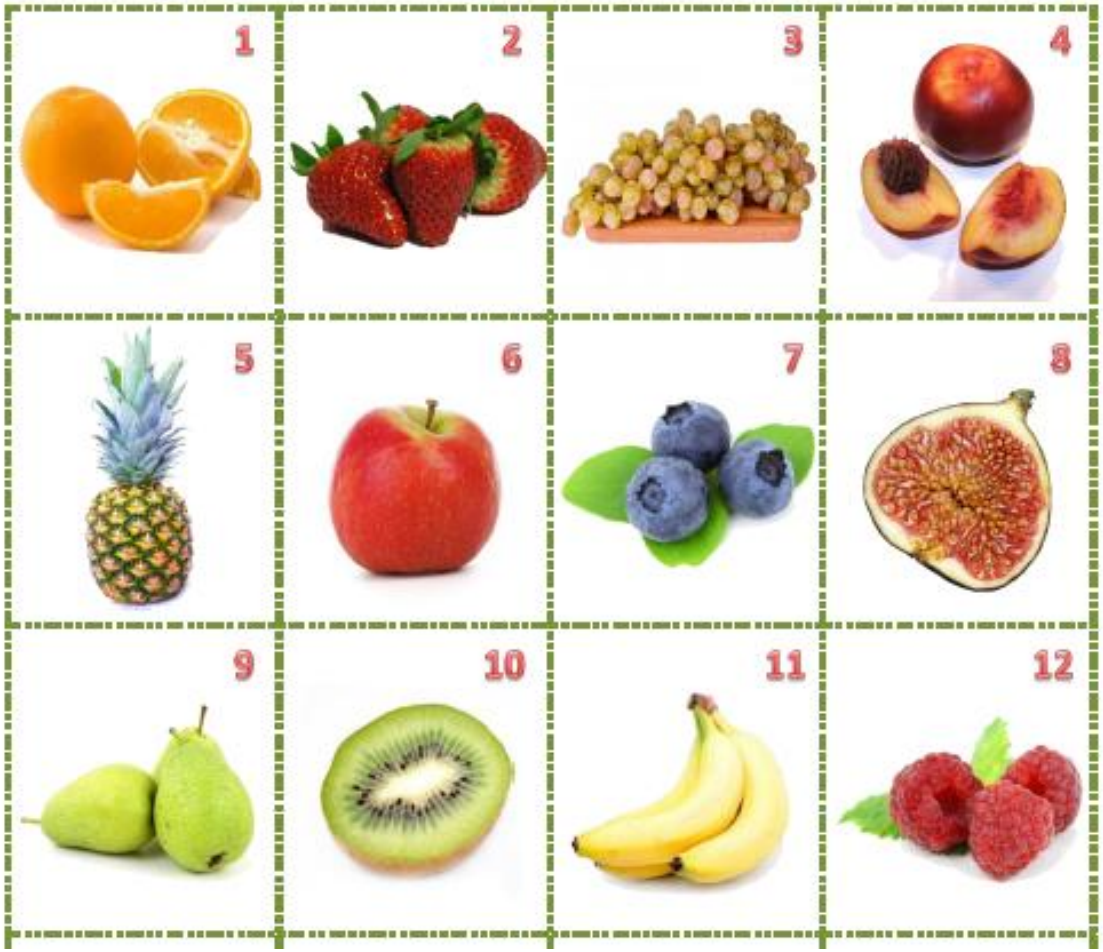
- **How much should I eat?**
- **Macronutrients**
- **Micronutrients**
- **What type of fat should I choose?**
- **Is fibre important for a healthy nutritional status?**
- **How much water do I need to drink?**
- **Calcium intake**
- **Salt intake**
- **Functional ingredients**
- **What are antioxidants?**

How much should I eat?

How much should I eat?



VOCABULARY GAME 1 – FRUITS



Enjoy

Which fruit is in figure 1?
a) Peaches
b) Oranges
c) Lemons

Which fruit is in figure 2?
a) Raspberries
b) Grapes
c) Strawberries

Which fruit is in figure 3?
a) Bananas
b) Grapes
c) Cherries

Which fruit is in figure 4?
a) Nectarines
b) Apples
c) Limes

Which fruit is in figure 5?
a) Pineapple
b) Coconut
c) Mango

Which fruit is in figure 6?
a) Mango
b) Peach
c) Apple

Macronutrients

Proteins

- Functions
- Main food sources
- Daily needs and energy value

Lipids

- Functions
- Main food sources
- Daily needs and energy value

Carbohydrates

- Functions
- Main food sources
- Daily needs and energy value

MACRONUTRIENTS

Functions	• Growth, repair, functioning and structure of all living cells
Main sources of plant origin	• Legumes, nuts, vegetables and seeds
Main sources of animal origin	• Meat, fish, eggs, milk, cheese and yogurt
Daily needs and energy value	• 10-15% of your total energy intake should come from proteins • 1 g of protein is equivalent to 4 kcal

MACRONUTRIENTS

According to the World Health Organization (WHO) your nutritional needs are:

Nutrients	Adults (per day)	Example for a 2000 kcal diet
Proteins	10 - 15% of calories	50 - 75 g
Carbohydrates	55 - 75% of calories	275 - 375 g
Total fat	15 - 30% of calories	75 - 150 g
Total fibre	>25 g	>25 g

Enjoy

QUIZ TRUE OR FALSE - GENERAL

1. As you grow older and become less active, you need fewer nutrients in your diet.

☐ True ☐ False

2. Older adults need more saturated fat than when they were a child.

☐ True ☐ False

3. Healthy older adults should eat at least 25 g of fibre per day in a 2000 kcal diet.

☐ True ☐ False

4. If you are a vegetarian, you may need to take a supplement for vitamins D and B_{12}.

☐ True ☐ False

5. You should monitor your weight (at least) once or twice a month.

☐ True ☐ False

Find the names of the various types of fibre rich foods hidden in the puzzle

- [ ] ARTICHOKES
- [ ] AVOCADO
- [ ] BEANS
- [ ] BERRIES
- [ ] BRAN
- [ ] BROCCOLI
- [ ] CABBAGE
- [ ] CAULIFLOWER
- [ ] CELERY
- [ ] FIGS
- [ ] KIWI
- [ ] MUSHROOMS
- [ ] ORANGES
- [ ] PAPAYA
- [ ] SPINACH

S	A	D	U	C	A	U	L	I	F	L	O	W	E	R
N	E	R	T	G	V	C	Z	A	C	M	B	V	Y	C
A	T	I	O	L	W	Q	A	Z	V	F	R	A	R	U
E	Q	U	W	A	P	A	P	A	Y	A	S	Z	E	M
B	R	A	N	T	Y	K	N	S	Q	V	C	R	L	I
P	O	U	G	F	D	S	H	K	L	O	P	L	E	F
U	Y	T	F	I	L	O	C	C	O	R	B	E	C	W
F	G	T	Y	U	I	K	G	F	D	R	A	G	Y	D
S	G	I	F	A	D	H	M	V	P	U	Y	T	B	E
D	F	G	A	D	A	R	T	I	C	H	O	K	E	S
S	Q	A	V	S	V	X	Z	E	W	O	F	M	R	V
P	E	F	O	R	G	T	H	J	U	I	L	J	R	D
I	A	J	C	F	C	X	G	N	V	C	M	C	I	A
N	H	F	A	S	V	K	L	J	G	F	T	U	E	E
A	S	A	D	S	E	G	N	A	R	O	R	E	S	G
C	G	U	O	I	O	M	J	H	F	S	A	T	E	A
H	U	O	L	U	I	O	I	W	I	K	E	C	S	B
I	M	B	Z	V	E	W	R	O	G	D	S	A	O	B
M	U	S	H	R	O	O	M	S	I	P	L	D	W	A
L	O	I	H	S	B	T	E	A	Z	E	U	I	O	C

Enjoy

Micronutrients

Fat-soluble vitamins	Water-soluble vitamins	Minerals
• Function • Main sources	• Function • Main sources	• Function • Main sources

MICRONUTRIENTS

Vitamin A

Very important for our vision, bone growth and skin protection.

Main sources

Liver and fish oils

Milk and eggs

Leafy green vegetables, orange and yellow vegetables, tomato products, fruits, and some vegetable oils

Vitamin D

Essential for calcium and phosphorus absorption and therefore for bones and teeth normal formation.

Main sources

Oily fish (such as salmon, tuna, and mackerel) and fish liver oils

Beef liver, cheese, and egg yolks

Vitamin E

Participates in protection of skin. Antioxidant against oxidation by free radicals.

Main sources

Nuts, seeds, and vegetable oils

Green leafy vegetables and fortified cereals

Vitamin K

Essential for normal blood clotting. It is also very important in bone formation.

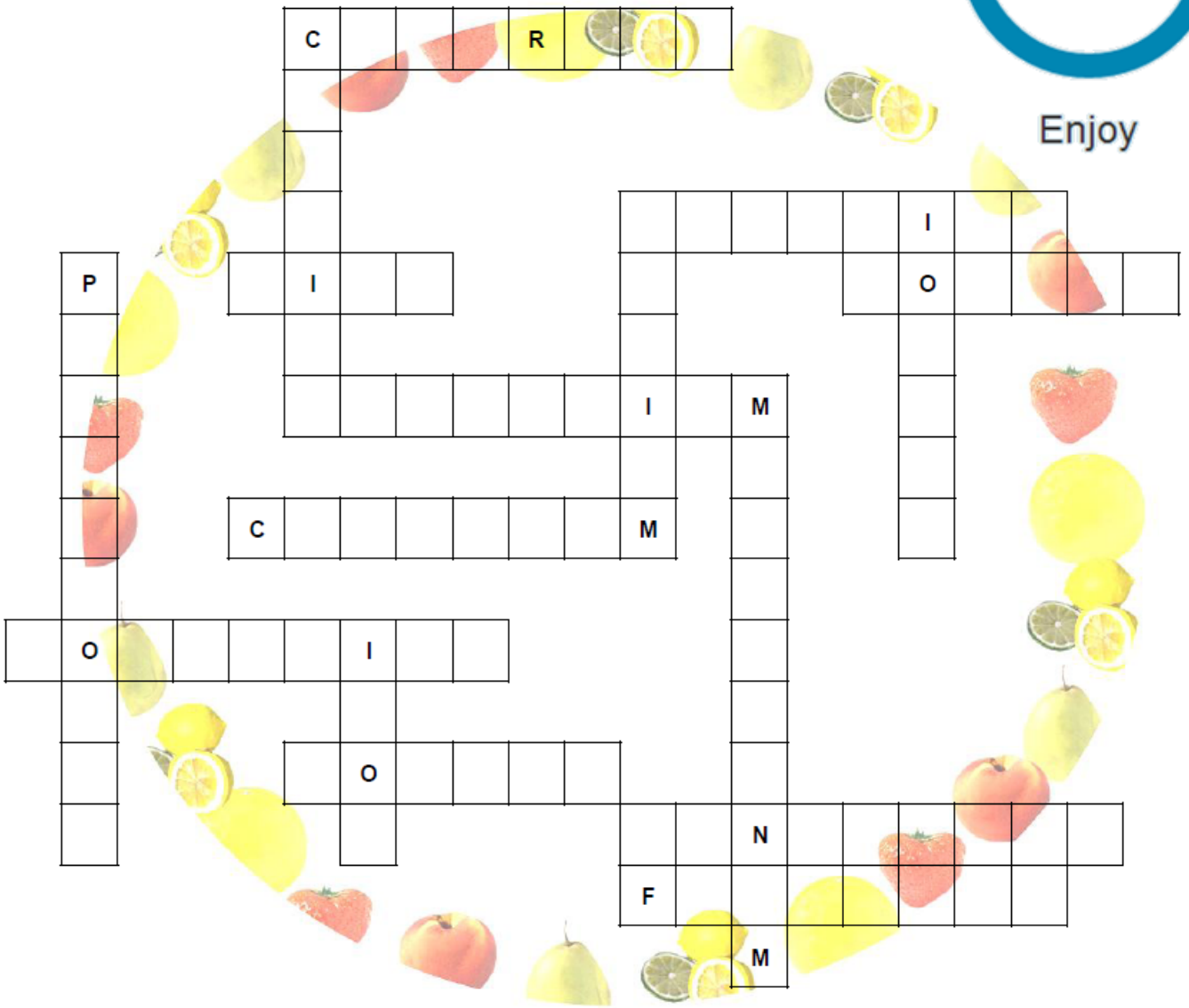
Main sources

Dark green vegetables (e.g. broccoli, spinach, kale, turnip greens), legumes (e.g. beans, peas), potatoes and vegetable oils

2. Please complete the following crossword puzzle using the names of MINERALS and TRACE ELEMENTS.

Enjoy

- CALCIUM
- CHLORIDE
- CHROMIUM
- COBALT
- COPPER
- FLUORIDE
- IODINE
- IRON
- MAGNESIUM
- MANGANESE
- MOLYBDENUM
- PHOSPHORUS
- POTASSIUM
- SELENIUM
- SODIUM
- ZINC



QUIZ - MICRONUTRIENTS

A healthy diet is especially important for the elderly. Please answer this questionnaire in order to test your knowledge about micronutrients. Only one option is correct.

1 - The main function of micronutrients is:

- ☐ a) To provide energy.
- ☐ b) To regulate appetite.
- ☐ c) Essential for the metabolism.

Enjoy

2 - The following components are usually recognized as micronutrients:

- ☐ a) Vitamins and proteins.
- ☐ b) Fat-soluble vitamins, minerals and trace elements.
- ☐ c) Vitamins, minerals and trace elements.

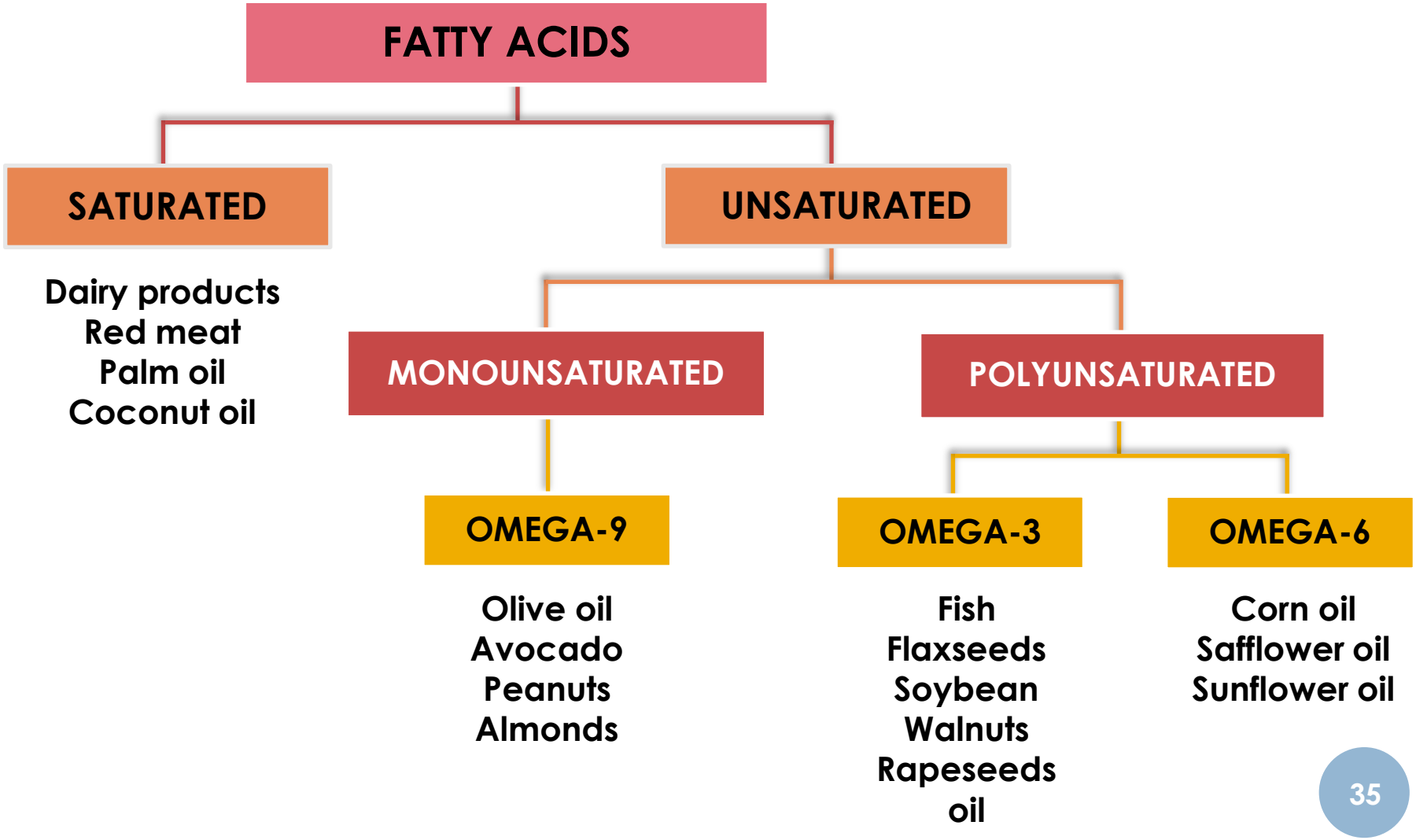
3 - The following vitamins are fat-soluble:

- ☐ a) A, D, E and K.
- ☐ b) B_2, D and E.
- ☐ c) A, C, D, E and K.

4 - Three of these vitamins are also recognized due to their antioxidant potential:

- ☐ a) A, C, and K.
- ☐ b) B_1, B_5, and B_9.
- ☐ c) A, C, and E.

WHAT TYPE OF FAT SHOULD I CHOOSE?



WHAT TYPE OF FAT SHOULD I CHOOSE?

Saturated fatty acids

Generally, fats rich in saturated fatty acids are solid at room temperature and tend to be from animal origin.

Some of the main sources of this type of fatty acids are: high fat cheeses, butter, lard, whole-fat milk and cream, palm and coconut oils, meats rich in fat, and some charcuterie products (pork cured ham, smoked ham, bacon).

Butter

Cheese

Cream

Charcuterie

Examples of the major saturated fatty acids are myristic acid (C14:0), palmitic acid (C16:0) and stearic acid (C18:0).

Eating food high in saturated fatty acids is associated with hypercholesterolemia mainly low-density lipoprotein (LDL) which increases the risk of cardiovascular disease.

Monounsaturated fatty acids

Generally, oils containing polyunsaturated fatty acids are liquid at room temperature but start to turn solid when chilled.

Some of the main sources of this type of fatty acids are: oils (olive, canola, peanut and sesame); nuts (macadamia, almonds, peanuts, hazelnuts); seeds (sesame, pumpkin); and fruits (avocados and olives).

WHAT TYPE OF FAT SHOULD I CHOOSE?

Culinary uses of fat

Type of oil		Type of fat	Ideal for
	Sunflower oil	Rich in polyunsaturated fatty acids	Appropriate for all uses (ex. seasoning and cooking).
	Corn oil		Some of these oils can also be re-heated, depending on its composition, temperature and duration of the applied cooking methods.
	Soybean oil		With respect to frying, it is important to take into account the composition of the food subjected to frying, because this can greatly influence the durability of the oil.
	Peanut oil	Rich in monounsaturated fatty acids	
	Olive oil		Appropriate for seasoning, sautéing, simmering and/or cooking (depends on the type of olive oil)


Clinical
nutrition
Spirit
ORIGINAL
LAMAL

Clinical nutrition

- Nutritional risk factors for older people
- Clinical nutrition evaluation
- Nutritional intake
- Anthropometric measurements
- How to classify your nutritional status
- Dietary plans

Clinical nutrition

Height

Waist circumference

Weight

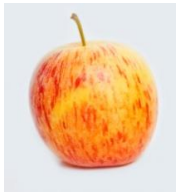
CLINICAL NUTRITION

BREAKFAST

1 cup of milk with coffee without sugar

1 Slice of whole bread with jam

SNACK



1 apple

1 biscuit without filling

LUNCH

Chicken breast + rice + tomato and lettuce salad

SNACK

1 natural yogurt

1 cereal bar

DINNER

Green beans soup

1 pear

This is an example of a dietary plan. It does not consider your specific daily needs, health status, allergies, intolerances. Please consult your nutritionist.

Drink at least 1.5 L of water

Walking - 30 min per day

Please fill out this form with the foods that you have eaten during this week.
Whenever possible use household measures or portion sizes.
(please see the topic "How much should I eat")

PERSSILAA
Project nr - 610359

Starting date: _____ / _____ / _____

Day		Breakfast	Snack	Lunch	Snack	Dinner	Other
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							

PERSSILAA
Project nr - 610359

Monitor your nutritional status

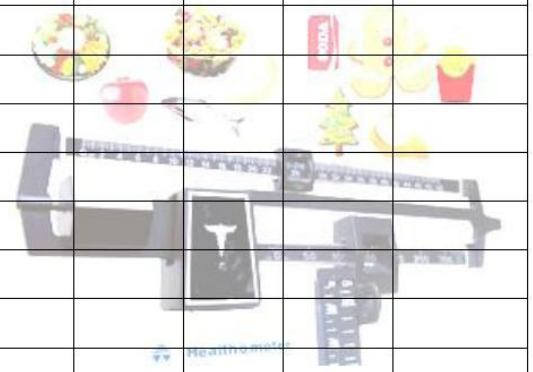
Name _____

Age _____ years

Gender ❑ Female ❑ Male

- Control your weight once or twice a month (at least);
- Eat at least 5 portions of different fruits and vegetables every day;
- Eat 3 meals per day at least (the average is 5) where 1 should be a hot meal;
- Have some milk and dairy foods every day (preferably low-fat);
- Stay hydrated, drink 2 L - 2.5 L of water or other non-sugar beverages per day;
- Reduce salt (< 5 g/day) replacing it with herbs and spices.

Date	Height (kg)	Weight (m)	BMI (kg/m^2)	Waist circumference (cm)

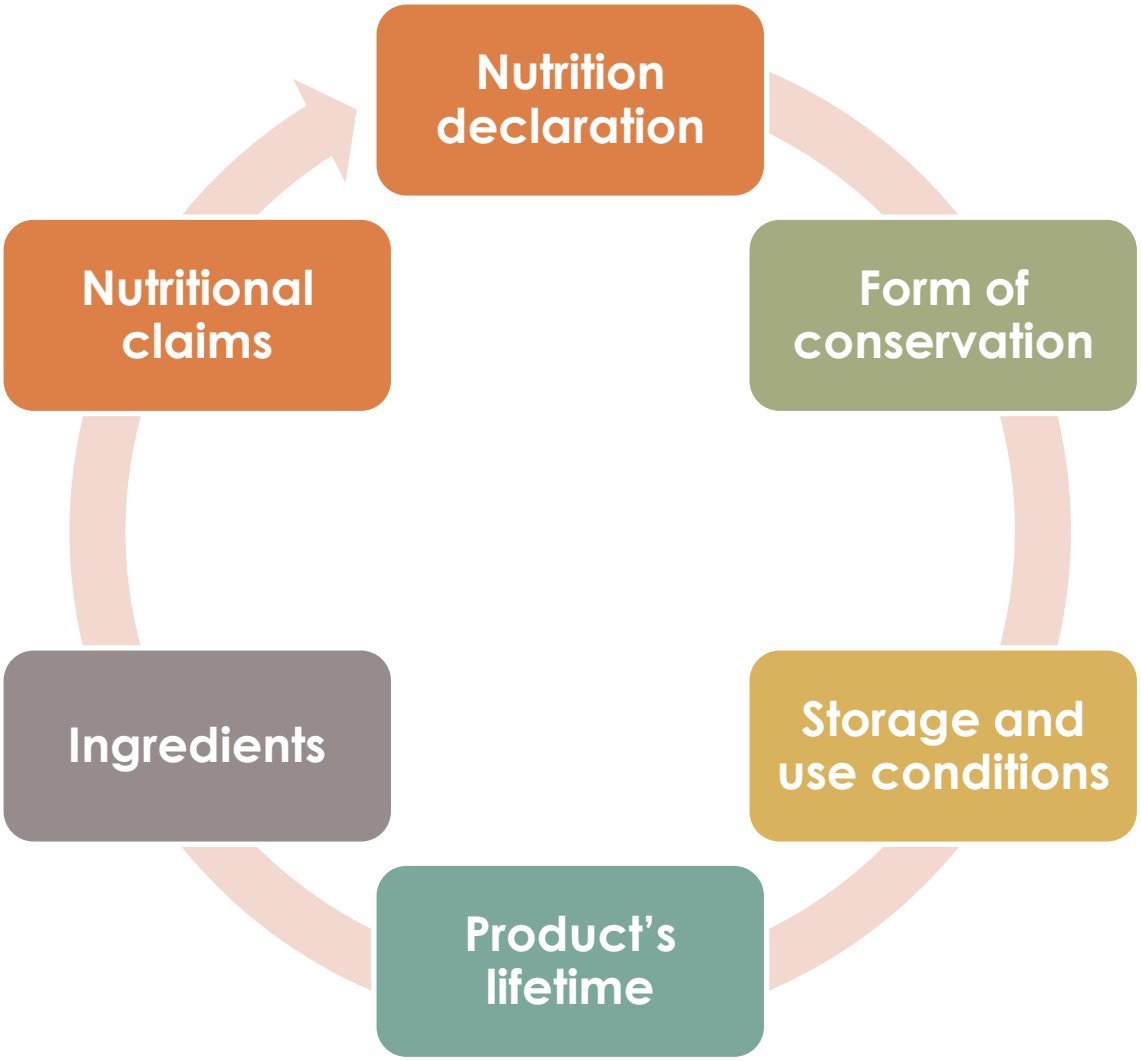



Nutritional
labelling

Nutritional Labelling

- Why is it important to look at the label?
- Which information is available on the package?
- The legislation on food information to consumers
- Mandatory food information
- Nutrition declaration
- What has been changed?
- European food label
- How can I understand the nutrition information?
- What are reference intakes?

Nutritional Labelling



NUTRITIONAL LABELLING

Mandatory nutritional declaration

BEFORE

Nutritional information (Average value)	Per 30 g of cereals + 125 ml of milk	Per 100 g of cereals
Energy value	178 kcal/ 753 kJ	393 kcal/ 1662 kJ
Proteins	6.8 g	8.4 g
Carbohydrates of which sugars	29 g 17 g	76 g 37 g
Total fat of which saturates	3.5 g 1.8 g	4.8 g 2 g
Fibre	1.8 g	5.9 g
Sodium	0.12 g	0.19 g

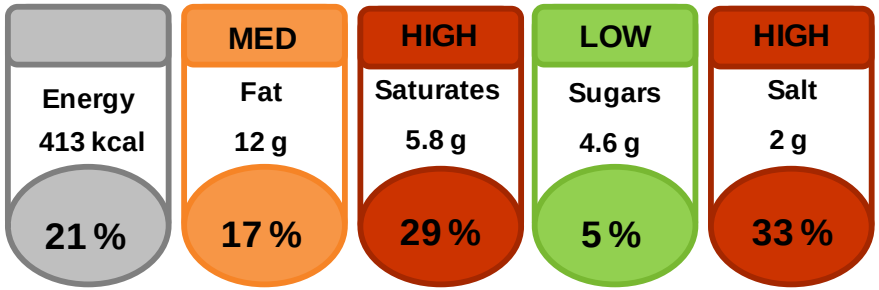
AFTER

Nutritional information (Average value)	Per 30 g of cereals + 125 ml of milk	Per 100 g of cereals
Energy value	178 kcal/ 753 kJ	393 kcal/ 1662 kJ
Fat of which saturates	3.5 g 1.8 g	4.8 g 2 g
Carbohydrates of which sugars	29 g 17 g	76 g 37 g
Proteins	6.8 g	8.4 g
Salt	0.3 g	0.5 g

Nutritional Labelling

Sometimes, in order to facilitate, nutrition information is provided on the front of the package using traffic light colours.

Please see the example bellow:



% Reference intake of an average adult (8 400 kJ/ 2 000 kcal)

The different colours of the traffic light are given to show whether a product has a high (red), medium (orange) or low (green) content in fat, saturates, sugars and salt. This information can be provided by 100 g or by portion.

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Instituto_Nacional de Saúde
Doutor Ricardo Jorge

EQUIPA DO INSA

Tânia Gonçalves Albuquerque

Mafalda Alexandra Silva

Helena S. Costa

Edite Sousa Bochecha

Ana Sanches-Silva

AGRADECIMENTOS

Este trabalho foi financiado pelo projeto *PERSSILAA (PERsonalised ICT Supported Service for Independent Living and Active Ageing) from the European Community's Seventh Framework Programme under grant agreement (FP7-ICT- 610359)*

Tânia Gonçalves Albuquerque agradece a Bolsa de Doutoramento (SFRH/BD/99718/2014) financiada pela Fundação para a Ciência e a Tecnologia (FCT), Fundo Social Europeu (FSE) e Ministério da Educação e Ciência (MEC)

OBRIGADA PELA VOSSA ATENÇÃO!