



RESTAT

Recognition of Skills to Transform
Accessible Tourism

M2

MODULE 2

Individualized and Health-Promoting Nutrition Provision

Produced within the European Programme Erasmus Plus,
Key Activity 2, Strategic Partnerships for VET | Innovation



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O3 – A1: General training curriculum

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GENERAL UNIT OVERVIEW

This document on Accessible Tourism aims to teach basic and fundamental information about health and nutrition for people with special needs. It is especially addressed to tourism managers and VET providers who aspire to increase services

and quality and to tourism workers and professionals, all of whom have tasks related to service in restaurants, gastronomy, etc.

The main idea is to train workers in this sector with basic knowledge of nutrition and health so that they can adapt their services to the needs of all people, making the tourism sector more accessible daily in all aspects, not only in infrastructure, but also in the field of gastronomy and cooking.

The first part of the document deals with the fundamental points of a balanced diet, especially on acid-base balance. It also reports on the diseases resulting from the acidification of the organism and what foods and daily situations can cause this acidification. In addition, it provides information on how to keep balance in the acidity of the organism, giving a table of some of the acidic and alkaline food as well as explaining the effect of fiber on the organism.

The objective of the EU nutrition and health claims part is to give information on the types of health and nutrition claims established by the European Commission paying special attention in the beneficial nutritional properties of food.

One of the main points to be highlighted in the document is the variety of diseases and special needs of tourists that must be taken into account when working in restaurants. It is necessary to know about these diseases in order to be able to adapt to the needs of these groups. Some of them are: diabetes, diseases connected with digestion, allergies and/or intolerances (e.g. peanut allergy, lactose intolerance, egg intolerance), celiac disease, Parkinson's disease, etc. Another topic discussed, which is often forgotten by staff involved in this sector, is the importance of knowing the needs of pregnant and breastfeeding women.

LEARNING OUTCOMES

By the end of this course the learner should be able to:

1. Realise how inner body balance influenced by acid and alkaline food is important for human health.
2. To know what is acid and alkaline food.



3. Understand what are antioxidants, flavonoids and free radicals and how it influences the health.
4. Understand what are EU nutrition and health claims.
5. Find out what are the most typical health problems (chronic diseases).
6. Find out the necessary dietary requirements for most typical health problems.
7. Find out suitable food for pregnant and nursing mothers.
8. Find out possible innovations in serving guests with special needs.

IO3. Module 2: Individualized and Health-promoting nutrition provision

1 HUMAN HEALTH

Terms to remember: Acid-base balance, pH, Civilization disease, Acid and alkaline food, Antioxidants, Free radicals, Flavonoids, fibre.

Balance in the human body

The precondition for good health is the proper functioning of our body, its internal processes and the maintenance of overall internal balance. The human body is exposed on a daily basis to circumstances that disturb this balance. However, it has a number of mechanisms in place to take care of this area and maintain a dynamic balance. The balance is sometimes disturbed for a longer time than it is for body tolerable and problems begin to arise. Our diet is a very significant input factor by which we can influence the balance of the internal environment. One of the components ensuring the overall balance of the internal environment is the so-called: **acid-base balance**, which is the process where the internal mechanisms in a person body ensure that body fluids (especially blood) are not too acidic or too alkaline. The human body works properly only when body fluids are neutral.

1.1 Acid-base balanced and civilisation diseases

Disruption of acid-base balance - acidification of the organism

There are a number of processes taking place in the human body that naturally create an acidic environment. It is, for example, a metabolism (breakdown of sugar and fat), which generates the energy needed for the body to function. Acidic substances are formed as metabolites. Mental conditions such as anger, aggression, anxiety or fear, in which the adrenaline nervous system predominates, also trigger the production of acidic substances. In addition, during a mental stress, a person usually begins to breathe shallowly and superficially that leads to an increased concentration of CO₂ in the blood, which is normally burned by the oxygen we breathe. There is not much oxygen with shallow breathing and the concentration of CO₂ leads to the formation of carbonic acid. As the name suggests, every acid is acidic.

Other influences that have an acid-forming effect on the human body are air and electro emissions, frequent and excessive use of chemical drugs or dietary supplements, smoking and drinking alcohol. And then there is our food issue, where we probably have the greatest choice. Food intake plays a big role. Sufficient salivation of food helps to alkalize what we eat. Many meals have an acidic pH (i.e. an indicator of acidity or alkalinity) and many have an alkaline one. In the common diet the consumption of acid-forming food predominates and that leads to acidification of the organism and effects on human health without being balanced by alkaline-forming food.

Acidity or alkalinity is given in pH values, which is an abbreviation of the English potential of hydrogen. The pH value (so-called hydrogen exponent, or the amount of free hydrogen ions H^+) is given on a scale from 0 to 14. It is acidic from 1pH to 6pH, 7 is a neutral pH and from 8pH to 14pH it is alkaline.

1. acid-forming - sulfur (S), phosphorus (P), chlorine (Cl), iodine (I)
2. alkaline-forming - sodium (Na), calcium (Ca), potassium (K), magnesium (Mg), iron (Fe)

Over-acidification of the body reveals itself inconspicuously, e.g. headache, fatigue, irritability, bad breath, heartburn, stomach and intestinal problems, sensitivity to cold and cold feeling in body (e.g. cold feet due to insufficient blood circulation), reduced immunity, hair Loss.

All these unpleasant symptoms can lead to the development of more serious diseases.

The civilization diseases

Due to the fact that the disease resulting from the acidification of the organism is affected by an inappropriate diet, which can be considered the standard diet of our civilization. These illnesses are called **the civilization diseases (modern society diseases)**.

The problem occurs when tissues and cells cease to be supplied with blood and the oxygen that carries blood. In the over-acidified organism, the elasticity of red blood cells is lost, which are difficult to pass through capillaries (small capillary vessels) and results in a worsened supply of oxygen to the organs and tissues. The walls of the blood vessels then solidify and defensively form a cholesterol patch. If the cell does not receive oxygen, it can "hold its breath" for a while and help itself with another mechanism of obtaining energy - without the oxygen necessity. This can work for a short period of time, but working cells without oxygen produce acids, which leads to over-acidification. If the lack of oxygen and the formation of acids from the oxygen-free mechanism of obtaining energy lasts longer then it is a great burden for the body. It responds by further narrowing the capillaries. It enters a vicious circle with serious health problems such as: heart attack, stroke, chronic inflammation, cancer, hypertension, arteriosclerosis, allergies and atopic eczema, diabetes mellitus, osteoporosis, osteoarthritis, DNA and more.

Maintaining balance in the body

Our organism has several mechanisms by which the organism acidification is regulated. These are the following:

- **Buffer mechanism** – solves pH fluctuations during normal metabolism using so-called buffers, responds immediately.
- **Respiratory mechanism** - faster breathing increases the removal of carbon dioxide from the blood, reduces its acidity (carbon dioxide penetrates into blood as a result of average metabolism, sugar and fat cleavage) reacts in 1-3 minutes.
- **Renal mechanism** - regulation of quantitative acids and alkaline substances excreted in the urine, which requires hours to days.
- **Liver mechanism.**
- **Mechanism in the heart (myocardium).**

What can a person influence and have an organism helping to balance the acidity of his or her organism?

- Choice of diet (more alkaline food).
- Physical activity - faster breathing removes more carbon dioxide from the blood.

- Mental mood – the elimination of long-term negative mental states that would lead to a hormonal reaction acidifying the body.

1.2 Acidic and alkaline food

The daily diet is dominated by acid-forming foods (see table below), which, in the absence of alkaline foods, of which fruits and vegetables play a dominant role, cause the above-mentioned acidification of the organism.

Very acidic	Very alkaline
<ul style="list-style-type: none"> • Sugar • Food that contain sugar (chocolate, sweetened cereals, cornflakes, frozen desserts) • Artificial sweeteners • Meat (beef, pork, veal) • Bacon • Matured cheeses • Pasteurized milk • Sweetened dairy production • Sweetened drinks • Cocoa • Alcohol • Medicine • Canned food • Chips • French fries, pasta • Yeast • Yolk 	<ul style="list-style-type: none"> • Fruits (citrus fruits - lemon, lime, orange, tangerine, grapefruit, pomelo, and other fruit - mango, papaya) • Vegetables (celery, parsley, turnip, broccoli, edible "weeds" such as dandelions, plantain, wild garlic. Garlic, onion, raw spinach, fennel) • Nori seaweed • Ginger • Dried figs and dried dates • Pumpkin seeds • Olive oil • Apple vinegar

Moderately acidic	Moderately alkaline
<ul style="list-style-type: none"> • Brown sugar • Barley • Rye flour • White rice • Peanuts, cashews, Brazil nuts • Pork lard • Soybean oil • Meat (lamb, rabbit, chicken and turkey) • Soft cheese • Whole egg • Coffee • Wine • Rice milk • Popcorn 	<ul style="list-style-type: none"> • Maple syrup • Fruit (apples, pears, bananas, blackberries, raspberries, strawberries) • Watermelon • Vegetable (radish, zucchini, leafy vegetable, sweet potato, pumpkin, watercress) • Lentil • Almonds • Flax seed • Linseed oil • Green tea • All spices

Slightly acidic	Slightly alkaline
<ul style="list-style-type: none"> • Sweetened honey (from shops) • Some fruits (cranberries, plums, pomegranate, raisins, almost all beans (except munga)) • Soy milk • Brown rice • Butter • Margarine • Sunflower oil • Buttermilk • Cottage cheese • Goat milk • Whey • Yoghurt • Mayonnaise, ketchup • Fermented vinegar • Black tea • Tap water 	<ul style="list-style-type: none"> • Molasses, honey, stevia • Fruit (apricot, peaches, nectarine, cherries, blueberry, pineapple, avocado) • Vegetable (carrot, cucumber, peas, tomatoes, cabbage, brussels sprout) • Mushroom • Mung beans • Amaranth • Buckwheat, bulgur, couscous, • Millet • Oat • Quinoa • Indian rice, whole grain rice • Sesame and sunflower seeds • Oils - avocado, coconut, rapeseed • Sea salt

A healthy diet could be a small variety, rich in fruits and vegetables, legumes, light lean meats, fish, milk, cheese and high-density food. The ideal representation of base and acids are 80 percent alkaline foods and 20 percent acidic.

Nutrition rich in fruit, vegetable and food rich in fibre is an excellent prevention of current diseases of civilization. The substances are called antioxidants.

1.3 Antioxidants, free radicals and flavonoids

Antioxidants are substances that neutralize free radicals then protect cells from damage. They include vitamins B1, B2, B3, B6, C, E, coenzyme Q, pycnogenol, alpha-lipoic acid, phenolic acid, zinc, selenium, etc. Our body cannot produce vitamins C and E, beta carotene and selenium by itself. It is important to take it within our healthy diet.

There are more antioxidants in vegetable than in fruit. It can reduce and neutralize the effects of free radicals damaging cells, body, tissue, nervous system and more.

This activity is the protection of personal data and the protection of the immune system. They help the body get rid of toxic substances that damage cells. Antioxidants cause harmful aging and have a preventive effect against heart and vascular diseases.

Free radicals form naturally in the body as a **by-product of metabolism**. In addition, some external factors increase their production (**tabaco smoke, environmental pollution, radiation, drugs, alcohol, pesticides, ozone etc.**). We can limit the free radical formation but cannot prevent it. A free radical is any molecule that contains an electron excess. This try to eliminate the surplus as quickly as possible and reach equilibrium. Such as molecule in its environment is looking for any compound (a proton is lacking in the pair) that would ensure this balance.

By pairing with cell compounds, these cells break down.

What antioxidants do in the body

Antioxidants can pair with free radicals (give them their proton) and reduce their imbalance. This effect eliminates free radicals and they are no longer dangerous for our body. The body is producing some of their antioxidants (based on enzymes).

It is extremely important to supplement antioxidants from the diet - fruits and vegetables.

Other substances that fight free radicals in the body are **flavonoids**. They occur as a natural dye in fruit and vegetable. Flavonoids have anti-inflammatory, anti-viral and antioxidant effects. They affect the permeability of blood vessels and capillaries, the formation of blood clots, which reducing hearth attacks and cerebral stroke.

Dietary fiber is practically unstable component of plant food. We do not get any energy from it. It is absolutely essential for the healthy function of our organism.

The effect of fiber on the health of the organism

- It affects digestion and affects the absorption of carbohydrates in the small intestine; i.e. energy is released gradually in this way.
- Regulates the absorption of fat and cholesterol in the small intestine.

- Causes an increase in intestinal contents - it can speed up the use of intestines (more, faster need for emptying) and the disposal of waste products.
- Dilutes the toxic content of the intestine - waste products are diluted with fibre and leave the body faster.
- Affects the absorption of vitamins and minerals (possibly reduces).

2 EU NUTRITION AND HEALTH CLAIMS

Union rules on nutrition and health claims have been established by Regulation (EC) No 1924/2006. The Regulation started to apply on 1 July 2007. The objective of those rules is to ensure that any claim made on a food's labelling, presentation or advertising in the European Union is clear, accurate and based on scientific evidence. This not only protects consumers, but also promotes innovation and ensures fair competition. The rules ensure the free circulation of foods bearing claims, as any food company may use the same claims on its products anywhere in the European Union.

Original objectives of the EU with this intervention related with nutrition and health:

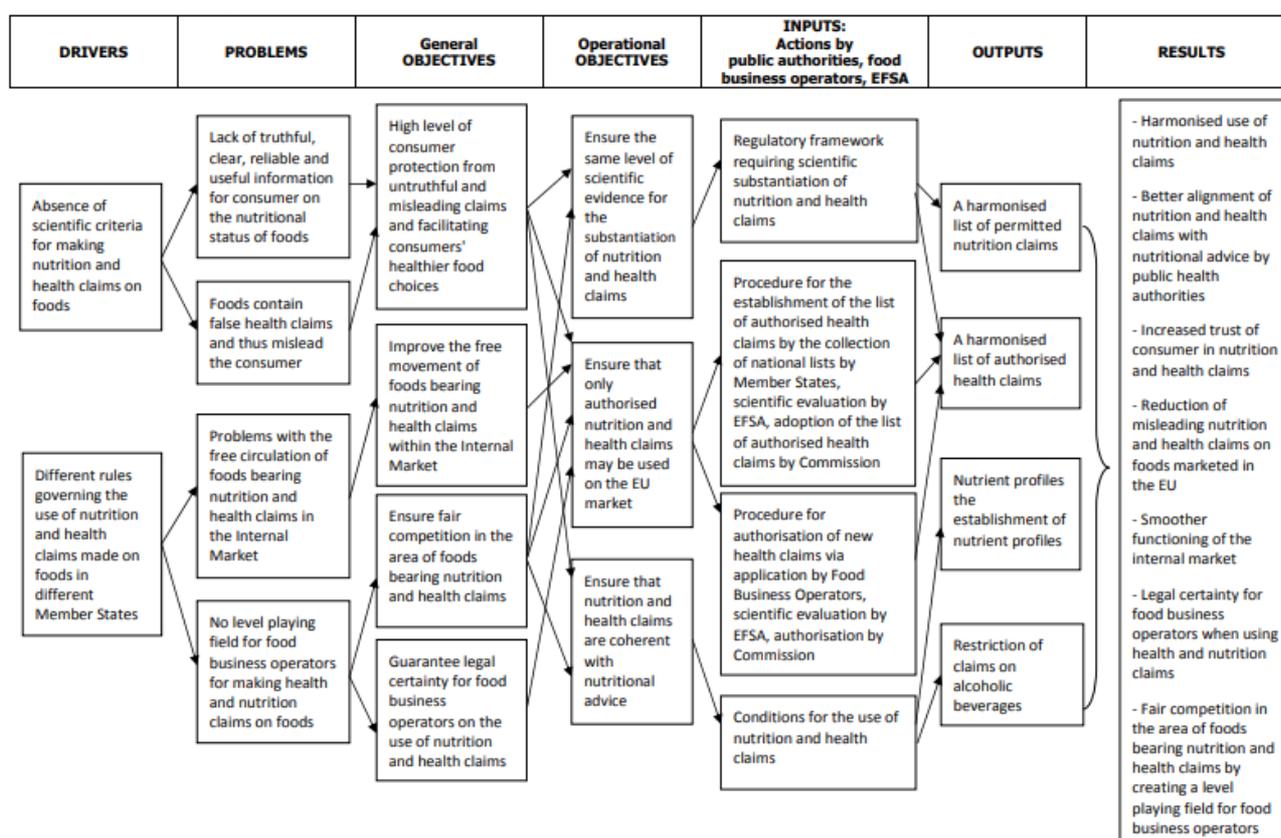
1. Objectives for the EU measure on health and nutrition claims in general (see intervention logic in Figure 1):
 - To ensure a high level of consumer protection and to facilitate healthier food choices;
 - to improve the free movement of foods with nutrition and health claims within the internal market and to increase legal certainty for economic operators; and
 - to ensure fair competition when nutrition and health claims are being used and to promote and protect innovation in the area of foods.
2. Objectives of applicable rules covering plants and their preparations:
 - To ensure that consumers are correctly informed on nutritional/health value of plants and their preparations contained in food and to allow them to make an informed choice on a healthy diet;



- to ensure that foods containing plants and their preparations that are placed on the market are safe; and
- to ensure the free movement of foods containing plants and their preparations within the internal market.

More information is available on the website of the European Commission at the following link: https://ec.europa.eu/food/safety/labelling_nutrition/claims_en

Figure 1. [Intervention logic for health and nutrition claim](#)



2.1 Health claims

A health claim is any statement about a relationship between food and health. The Commission authorizes different health claims provided they are based on scientific evidence and can be easily understood by consumers. The European Food Safety Authority (EFSA) is responsible for evaluating the scientific evidence supporting health claims.

Types of Health Claims:

1. The so-called 'Function Health Claims':
 - Relating to the growth, development and functions of the body.
 - Referring to psychological and behavioural functions.
 - On slimming or weight-control.
2. The so-called 'Risk Reduction Claims' on reducing a risk factor in the development of a disease. For example: "Plant stanol esters have been shown to reduce blood cholesterol. Blood cholesterol is a risk factor in the development of coronary heart disease".
3. Health 'Claims referring to children's development'. For example: "Vitamin D is needed for the normal growth and development of bone in children".

More information is available on the website of the European Commission at the following link:
https://ec.europa.eu/food/safety/labelling_nutrition/claims/health_claims_en

2.2 Nutrition claims

Nutrition claims are only permitted if they are listed in the Annex of Regulation (EC) No 1924/2006, lastly amended by Regulation (EU) No 1047/2012.

Permitted nutrition claims (appropriate use of this terminology is increasingly necessary in the accessible tourism sector):

Low Energy

A claim that a food is low in energy, and any claim likely to have the same meaning for the consumer, may only be made where the product does not contain more than 40 kcal (170 kJ)/100 g for solids or more than 20 kcal (80 kJ)/100 ml for liquids. For table-top sweeteners the limit of 4 kcal (17 kJ)/portion, with equivalent sweetening properties to 6 g of sucrose (approximately 1 teaspoon of sucrose), applies.

Energy-Reduced

A claim that a food is energy-reduced, and any claim likely to have the same meaning for the consumer, may only be made where the energy value is reduced by at least 30%, with an indication of the characteristic(s) which make(s) the food reduced in its total energy value.

Energy-Free

A claim that a food is energy-free, and any claim likely to have the same meaning for the consumer, may only be made where the product does not contain more than 4 kcal (17 kJ)/100 ml. For table-top sweeteners the limit of 0,4 kcal (1,7 kJ)/portion, with equivalent sweetening properties to 6 g of sucrose (approximately 1 teaspoon of sucrose), applies.

Low Fat

A claim that a food is low in fat, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 3 g of fat per 100 g for solids or 1,5 g of fat per 100 ml for liquids (1,8 g of fat per 100 ml for semi-skimmed milk).

Fat-Free

A claim that a food is fat-free, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,5 g of fat per 100 g or 100 ml. However, claims expressed as 'X % fat-free' shall be prohibited.

Low Saturated Fat

A claim that a food is low in saturated fat, and any claim likely to have the same meaning for the consumer, may only be made if the sum of saturated fatty acids and trans-fatty acids in the product does not exceed 1,5 g per 100 g for solids or 0,75 g/100 ml for liquids and in either case the sum of saturated fatty acids and trans-fatty acids must not provide more than 10% of energy.

Saturated Fat-Free

A claim that a food does not contain saturated fat, and any claim likely to have the same meaning for the consumer, may only be made where the sum of saturated fat and trans-fatty acids does not exceed 0,1 g of saturated fat per 100 g or 100 ml.

Low Sugars

A claim that a food is low in sugars, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 5 g of sugars per 100 g for solids or 2,5 g of sugars per 100 ml for liquids.

Sugars-Free

A claim that a food is sugars-free, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,5 g of sugars per 100 g or 100 ml.

With No Added Sugars

A claim stating that sugars have not been added to a food, and any claim likely to have the same meaning for the consumer, may only be made where the product does not contain any added mono- or disaccharides or any other food used for its sweetening properties. If sugars are naturally present in the food, the following indication should also appear on the label: 'CONTAINS NATURALLY OCCURRING SUGARS'.

Low Sodium/Salt

A claim that a food is low in sodium/salt, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,12 g of sodium, or the equivalent value for salt, per 100 g or per 100 ml. For waters, other than natural mineral waters falling within the scope of Directive 80/777/EEC, this value should not exceed 2 mg of sodium per 100 ml.

Very Low Sodium/Salt

A claim that a food is very low in sodium/salt, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,04 g of sodium, or the equivalent value for salt, per 100 g or per 100 ml. This claim shall not be used for natural mineral waters and other waters.

Sodium-Free or Salt-Free

A claim that a food is sodium-free or salt-free, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,005 g of sodium, or the equivalent value for salt, per 100 g.

No Added Sodium/Salt

A claim stating that sodium/salt has not been added to a food and any claim likely to have the same meaning for the consumer may only be made where the product does not contain any added sodium/salt or any other ingredient containing added sodium/salt and the product contains no more than 0,12 g sodium, or the equivalent value for salt, per 100 g or 100 ml.

The claim "reduced saturated fat", and any claim likely to have the same meaning for the consumer, may only be made:

(a) if the sum of saturated fatty acids and of trans-fatty acids in the product bearing the claim is at least 30% less than the sum of saturated fatty acids and of trans-fatty acids in a similar product; and

(b) if the content in trans-fatty acids in the product bearing the claim is equal to or less than in a similar product.

The claim "reduced sugars", and any claim likely to have the same meaning for the consumer, may only be made if the amount of energy of the product bearing the claim is equal to or less than the amount of energy in a similar product.

Light/Lite

A claim stating that a product is 'light' or 'lite', and any claim likely to have the same meaning for the consumer, shall follow the same conditions as those set for the term 'reduced'; the claim shall also be accompanied by an indication of the characteristic(s) which make(s) the food 'light' or 'lite'.

Naturally/Natural

Where a food naturally meets the condition(s) laid down in this Annex for the use of a nutritional claim, the term 'naturally/natural' may be used as a prefix to the claim.

Source of Omega-3 Fatty Acids

A claim that a food is a source of omega-3 fatty acids, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 0,3 g alpha-linolenic acid per 100g and per 100kcal, or at least 40mg of the sum of eicosapentaenoic acid and docosahexaenoic acid per 100g and per 100kcal.

High Omega-3 Fatty Acids

A claim that a food is high in omega-3 fatty acids, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least 0,6 g alpha-linolenic acid per 100 g and per 100 kcal, or at least 80 mg of the sum of eicosapentaenoic acid and docosahexaenoic acid per 100 g and per 100 kcal.

High Monounsaturated Fat

A claim that a food is high in monounsaturated fat, and any claim likely to have the same meaning for the consumer, may only be made where at least 45% of the fatty acids present in the product derive from monounsaturated fat under the condition that monounsaturated fat provides more than 20% of energy of the product.

High Polyunsaturated Fat

A claim that a food is high in polyunsaturated fat, and any claim likely to have the same meaning for the consumer, may only be made where at least 45% of the fatty acids present in the product derive from polyunsaturated fat under the condition that polyunsaturated fat provides more than 20% of energy of the product.

High Unsaturated Fat

A claim that a food is high in unsaturated fat, and any claim likely to have the same meaning for the consumer may only be made where at least 70% of the fatty acids present in the product derive from unsaturated fat under the condition that unsaturated fat provides more than 20% of energy of the product.

More information is available on the website of the European Commission at the following link:

https://ec.europa.eu/food/safety/labelling_nutrition/claims/nutrition_claims_en

2.3 Videos

Click the following link to see all videos on Health and nutrition of the European Commission: https://ec.europa.eu/food/see-the/videos_en

FOOD FRAUD NETWORK - 2020



Languages available: [English](#) (English subtitle), [Français](#) (Français sous-titres)

EU HEALTH AND FOOD SAFETY



Audits and analysis - 2017

Languages available: [English](#), [Português](#), [Español](#), [Deutsch](#), [Français](#)

3 HEALTH PROBLEMS AND FOOD SOLUTIONS

3.1 Civilisation diseases in older age

There can be variety of health problems in older age. But there are several chronic diseases which requires a special attention regarding nutrition. These most common European diseases in older which require diets are:

- hypertension
- diabetes
- allergies
- heart diseases
- diseases connected with digestion
- kidney or liver diseases

Figure 2. Hypertension disease rate in the age group 65 – 74 years

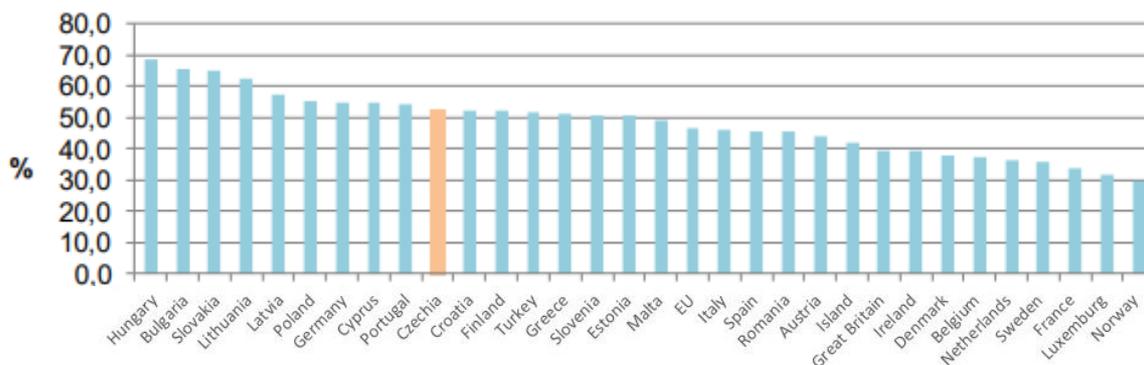
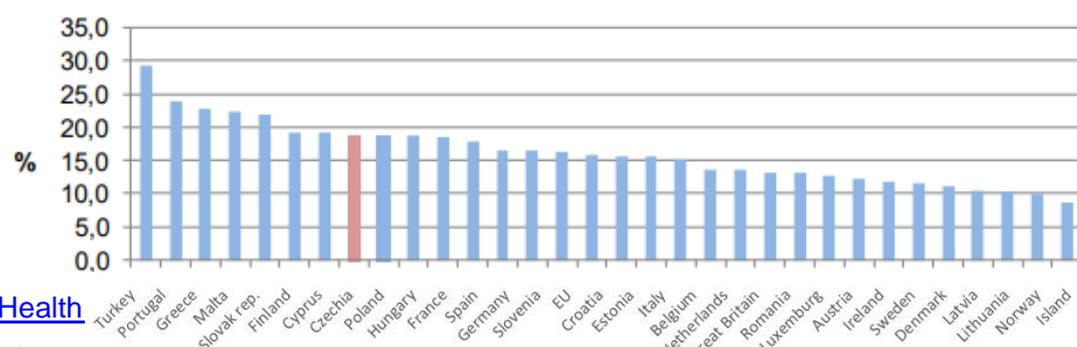


Figure 3. Diabetes disease rate in the age group 65 – 74 years



[Health](#) of EU citizens and the performance of the health systems of the EU member States, 5 candidate countries and 3 EFTA countries. Information obtained from [this](#) link.

3.2 Description of most typical health problems in relation with nutrition and diet requirements

Disease	Description
Hypertension	Hypertension (HTN or HT), also known as high blood pressure (HBP), is a long-term medical condition in which the blood pressure in the arteries is persistently elevated. High blood pressure typically does not cause symptoms.
Food options/ Foods to avoid	
<p>People with hypertension should eat more fruit, vegetable and low-fat dairy food, whole-grain food, fish, poultry and nuts. Food that are high in saturated fat, cholesterol, and trans-fat as well as limit sodium, sweets and sweet drinks, and red meat are not suitable for this diet.</p> <p>It is forbidden to use food where salt was used in its manufacture (canned, cold cuts, ham, soup spice mix, sterilized vegetables, anchovy paste, soy sauce, etc.).</p> <p>Food that contains a greater amount of potassium (vegetable, fruit – apricot and banana, flour, rice, potato, pasta, honey, cottage cheese, oil, fat) are included in this diet.</p> <p>This diet compensates the low sodium taste with suitable spices or aromatic vegetable such as onion, garlic, mushroom, celery.</p> <p>Fried meal is not recommended for its overheated fat. Fat is used only in fully prepared already cooked or baked meal. Food has to be easily digestible.</p> <p>Recommended is lean meat such as beef back, pork leg, poultry, freshwater fish. Meat of mutton, lamb, offal, sea fish, young meat (veal) and cold cuts are not recommended for their high sodium content.</p> <p>Milk is not served as a separate drink. Low fat sour dairy product, white and fruit yoghurt, low fat cottage cheese and 1 egg a week in any modification are suitable.</p> <p>It's great to include vegetable fat rather than animal fat.</p> <p>Sugar and honey are without restrictions.</p> <p>The best is unsalted pastry or no salt on top of pastry and older bread up to 2 days after baking.</p> <p>Potato, rice, pasta, baked potato, potato with garlic and potato dough dishes are suitable. Flour, goat, oatmeal are fine. Depending on health status legumes can be included.</p> <p>Unlimited selection of fruit is good but not the flatulent ones such as pear.</p>	

Fresh, frozen, dried vegetable and not pickled one. More flatulent vegetable is sometimes included (cabbage, cucumbers, peppers).

Spices such as cumin, fennel, marjoram, bay leaf chive, juniper, dill, parsley, onion, leek, onion, garlic, celery are included in this diet.

Disease	Description
Diabetes	Disease that occurs when your blood glucose, also called blood sugar, is too high. Blood glucose is your main source of energy and comes from the food you eat. Insulin, a hormone made by the pancreas, helps glucose from food get into your cells to be used for energy. Sometimes your body doesn't make enough or any insulin or doesn't use insulin well. Glucose then stays in your blood and doesn't reach your cells.
Food options/ Foods to avoid	
<p>There is no banned food in this diet, but there are some that should be restricted, such as refined sugar, high-calorie food, juice and soda with sugar.</p> <p>The diet should be full-fledged and varied.</p> <p>The correct time between meals should be observed.</p> <p>Food dose limitation that contain sugar in form of polysaccharides (compound sugar) such as starch, flour, mill and bakery products – pastries, cereal, rice, pasta, dumplings, potatoes, oatmeal, hail, semolina, also sugar contained in milk, in dairy products and in the fruit must be strictly set.</p> <p>Recommended food is lean meat such as beef back, pork leg, veal, lamb, chicken, turkey, rabbit, trout, pike, carp. Fish should be included in this diet from 1 to 2 times a week.</p> <p>Semi-fat and low-fat milk, skimmed sour milk products are suitable, organic buttermilk, kefir and yoghurt milk, white yoghurt, yoghurt with sugar-free jam, soft and hard cottage, low fat cheese, mold and ripe cheese, melted and hard cheese up to 30% fat.</p> <p>The excessive consumption of fat increases the risk of developing diabetes vascular complications. The animal fat limitation is recommended for butter, lard, bacon, fatty meats, fatty dairy products. More suitable is plant fat, e.g. margarine, single-species vegetable oils.</p> <p>The doses of carbohydrate foods are strictly set according to so-called framework menu or the exchange units are followed.</p> <p>Side dishes as potatoes, mashed potatoes, pasta, rice. The wholegrain flour, dark pastries, wholegrain bakery products.</p>	

Fruit is without limitation unless is too sweet and overripe, banana, pears, grapes, plums (do not eat these too often).

Any vegetable is not limited.

Diabetes diet recommends to use rarely salt and spices.

The principles of healthy nutrition are the best to use.

Disease	Description
Celiac disease	Celiac disease is an immune disease in which people can't eat gluten because it will damage their small intestine. If you have celiac disease and eat food with gluten, your immune system responds by damaging the small intestine. Gluten is a protein found in wheat, rye, and barley.
Food options/ Foods to avoid	
<p>A gluten-free diet is the only treatment for celiac disease. It means not eating food that contain barley, rye or wheat, including farina, graham flour, semolina, durum, cous-cous and oat.</p> <p>A natural and white rice, rice porridge, rice flour, rice flakes, gluten-free rice pasta are good. Another suitable crop is corn, corn flour and semolina, instant corn porridge, roasted natural corn, cornbread and gluten-free crisp, crispy cornbread, corn starch. Potatoes and potato starch meal is allowed to prepare dishes. Soybeans and flakes, soy semolina and flour, soy meat without gluten, soy cheese (Tofu), soymilk and yoghurt, soy sprouts are also included and buckwheat, quinoa, legumes (beans, lentils, peas), nuts and seeds too.</p> <p>Fresh and frozen fruit is suitable, and also compote, puree, fruit snacks (without cereal additives), dried and candied fruit according to a tolerability.</p> <p>Fresh, baked and boiled vegetable without thickening, stewed and pureed with gluten-free flour are suitable. Fermented, pickled, frozen and canned vegetables are also good to a tolerability.</p> <p>Types of meat are not limited in a gluten-free diet. Poultry, fish, rabbit, venison, beef, pork, veal, smoked meat, pate and homemade spread, all prepared on a gluten-free basis are allowed. Meat loaf, ground meat, poultry and turkey ham may be included.</p> <p>Milk and milk products are allowed according to a tolerability. Soft, hard and melted cheese, cottage cheese, yoghurt, pudding without gluten are suitable. Egg can be added into gluten free omelette, pancake and spread.</p>	

Fat is used in the healthy diet framework. Vegetable fat is preferred. Animal fat is not prohibited (butter, cream, lard, bacon), but it is recommended to minimize their consumption.

Natural fruit juice and at home pressed fresh fruit are the best. We especially recommend carrot and tomato juice. Of course, herbal tea, mineral water, cow, goat and soy milk are good too. A pure grain coffee is allowed in a small quantity.

With a gluten-free diet, following crops are prohibited!

Prohibited wheat – wheat flour of all kinds, wheat semolina, wheat flakes, wheat grain barley, barley flour, hail, groats, barley flakes, barley malt, oatmeal, rye flour, rye flakes, rye grain. Pastry and bread are prohibited unless they are pronounced gluten-free. Pastry and bread baked at home must be prepared from gluten-free flour.

An instant coffee, coffee substitute and alcohol are unsuitable. Fruit snack (unless labelled as gluten-free), ready-made vegetable dishes, vegetable snacks and spreads, purchased mayonnaise salads, those all are not recommended.

Sausages, purchased pate, spread, canned meat are also not safe unless labelled as gluten-free.

Chocolate creams are not allowed.

Disease	Description
Gallbladder problems	Gallbladder disease refers to medical conditions (for example, gallstones or cholecystitis) that affect your gallbladder—a pear-shaped organ located beneath your liver that stores bile (a dark yellow fluid that helps digest fats in your gut).
Food options/ Foods to avoid	
<p>The diet should be full-fledged and varied. The correct time between meals should be observed.</p> <p>The main principle is to exclude food that contain free concentrated sugars - sugar, honey, jam, chocolate, confectionery.</p> <p>The limitation of food with polysaccharides - starch (flour, mill and bakery product – pastry, cereal, rice, pasta, dumpling, potato, oatmeal, hail, semolina. Also, sugar contained in milk, dairy product and fruit are limited.</p>	

Cooking and baking are the best for meal preparation. The diet should be prepared until soft, without indigestible residues and without hard crust. The dish is adjusted without fat. If necessary then fat is used only in fully already prepared cooked or baked dish. A flour without fat is used for thickening, which then is simmered for at least 20 minutes.

Salt is used lightly. The basics of diabetes diet is followed.

Recommended for this diet

Lean meat – beef, pork leg, veal, lamb, hen, chicken, turkey, rabbit and fish such as trout, pike, linseed and carp.

Poultry liver, lean ham, lean diet sausages, ham salami, diet salami.

Milk, sour milk products are suitable – organic acid milk, buttermilk, kefir. White yoghurt with not added sugar marmalade and recommended types of fruit. Low and semi-fat cottage cheese. Soft and hard cheese and must not be heat treated.

Eggs can be prepared even hard boiled, but only in the form of spread and max 2 eggs/day.

Fresh butter and vegetable oil or other kind of vegetable fat are suitable.

Flour, oatmeal, semolina, potatoes, mashed potatoes, pasta, rice, flour and potato dumplings.

Food needs to be strictly weighed according to the framework menu.

Fresh, frozen, dried fruit and compote without sugar added are good for this diet. Orange, mandarin, grapefruit, lemon, apple, apricot, peach, peeled nectarine, grape juice, cherry, plum, kiwi, strawberry, raspberry, blueberry, water melon. Not recommended – cranberry, gooseberry, currant, pear, quince, dates, fig, coconut, nuts, almonds, poppy seeds. With some limitation and properly weighed banana is used to.

Recommended vegetable are carrot, celery, parsley, black root, parsnip, spinach, sterilised beans, peas, lettuce, Chinese cabbage, cauliflower, broccoli, beetroot, tomato, tomato puree, tomato juice, leek in small quantity, kohlrabi, corn in smaller amount, zucchini, pumpkin, eggplant.

Unrecommended vegetable are cucumber, pepper, radish kale, cabbage, garlic and onion.

Spices such cumin, broth (cumin, bay leaf, new spice, onion, mushroom), small amount of sweet pepper, ground cinnamon, vegetable mix spice, grated gingerbread, marjoram are acceptable. Not recommended spice is pepper and chemically modified broth.

The small amount of vinegar and lemon syrup and juice are suitable.

Pastry roll, bun, French bread, white bread, biscuit are recommended.

Disease	Description
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Kidney problems	Kidney problems can affect your body's ability to clean your blood, filter extra water out of your blood, and help control your blood pressure. It can also affect red blood cell production and vitamin D metabolism needed for bone health.
Food options/ Foods to avoid	
<p>Dietary restrictions vary depending on the level of kidney damage. Food recommended for people with kidney problems is rich in sodium, potassium and phosphorus. Generally natural foods, which are not processed and varied and balanced diet are the best!</p> <p>The basis of the kidney diet is to reduce protein to half of its average dose. It is necessary to ensure the full value proteins supply, i.e. an animal protein. The plant protein supply is reduced. Meal is prepared without salt.</p> <p>Sometimes salt supply can be strictly managed under doctor advice. Table salt is not used. Meat portion is 50g a day. Meal preparation such as roasting lower the need for salt (sometimes frying can be used also). We do not serve desserts, only sweet main dish. Fruit juice is good source of vitamin C for this diet.</p> <p>Recommended are lean beef back, pork leg, poultry, chicken, turkey - all in half portions, freshwater fish. Cold cut is not suitable due to the large amount of salt.</p> <p>Milk is not served as a separate drink, only diluted and once a day. Milk can be used to prepare meals, but only in half of average portion. White and fruit yoghurts are suitable also. Cottage cheese is great but all other types of cheese are excluded. 1 pc of egg a week is eligible.</p> <p>Butter and vegetable oil are suitable.</p> <p>Sugar and honey are without restrictions.</p> <p>The best pastry is unsalted and without any salt on top.</p> <p>Boiled and roasted potato and roasted with garlic potato, rice, low-protein pasta are suitable.</p> <p>Low-protein flour, oatmeal.</p> <p>Fruit and vegetable are used without restriction.</p> <p>Spice sweet paprika, all spice, bay leaf, lovage in small quantities.</p> <p>The table salt, hot spice, coffee and alcohol are not recommended.</p>	

Disease	Description
Lactose intolerance	Lactose intolerance is a digestive disorder caused by the inability to digest lactose, the main carbohydrate in dairy products. It can cause various symptoms, including bloating, diarrhea and abdominal cramps.

	People with lactose intolerance don't make enough of the enzyme lactase, which is needed to digest lactose.
Food options/ Foods to avoid	
People with lactose intolerance should follow a lactose-free diet. They can eat. Today there is a wide variety of foods that do not contain lactose, such as some yoghurts, milk, ice cream, cheese, etc. However, there are always food choices such as fruits, vegetables, meat, fish, etc.	

Disease	Description
Egg intolerance	A person who has an egg intolerance is unable to digest eggs. This inability can result in various symptoms, including bloating, cramps, nausea, or diarrhea. Although an egg intolerance is not typically dangerous, it can be uncomfortable and bothersome.
Food options/ Foods to avoid	
There are some foods that contain eggs such as marshmallows, mayonnaise, meringue, baked goods, breaded foods, marzipan, frostings, processed meat, meatloaf and meatballs, puddings and custard, salad dressing, many pastas, etc. So, we should pay special attention in order to avoid them. Of course, there is a wide variety of foods that do not contain eggs or traces of eggs.	

Disease	Description
Fish and shellfish allergies	Symptoms of fish or shellfish allergies vary and range from mild reactions to a severe allergic reaction (anaphylaxis). The most common symptom is raised red bumps of skin (hives). Other symptoms include wheezing and trouble breathing, cramps, diarrhoea, nausea or vomiting. The best way to manage a shellfish or fish allergy is to avoid all food containing the species to which you are allergic. It is possible to be allergic to just one of these two types. However, most people who are allergic to one of these actually are allergic to both.
Food options/ Foods to avoid	
To avoid a reaction, strict avoidance of seafood and seafood products is essential. People with fish and/or shellfish allergies should avoid foods like: crab, crawfish, langoustines, lobster, prawns, sea urchin, shrimp, abalone, clams, octopus, snails, scallops, etc.	

Disease	Description
Peanut and Other Legume Allergies	Legumes such as soybeans, lentils, peas or chickpeas, and nuts such as peanuts are the foods to which allergies are usually due. As for cereals, the prevalence of this allergy is quite low and usually disappears with age. There are traces of nuts in many products so you should be very careful.
Food options/ Foods to avoid	
To avoid a reaction, strict avoidance of seafood and seafood products is essential. People with fish and/or shellfish People with peanut and Other Legume Allergies should avoid foods containing any of these products. So, it is necessary to pay special attention and ask if the food we want to consume could have any trace of peanuts or legumes.	

Disease	Description
Histamine intolerance	It is a substance that our own body makes, although it is also present in foods such as cheese, wine or vegetables. It occurs in people whose enzymes are not able to absorb and degrade the histamine that accumulates in the body. This can cause gastric problems, headaches, migraines, etc. Once it has been detected, a good treatment is very important, that is, maintaining a healthy and balanced diet, eliminating these foods especially during the growth and development of children and replacing them with others that provide the same benefits.
Food options/ Foods to avoid	
It is recommended to have a healthy diet contains moderate levels of histamine and avoid alcohol and other fermented beverages, fermented foods and dairy products such as yogurt, processed or smoked meats, aged cheese, food dyes and other additives, etc. Some foods low in histamine include: fresh meat and freshly caught fish, non-citrus fruits, eggs, gluten free grains such as quinoa and rice, etc.	

Disease	Description
Fruit and vegetable Allergies	Also known as pollen-food syndrome (OAS) is an allergic reaction to certain proteins in a variety of fruits, vegetables and nuts. The symptoms include itching and burning of the lips, mouth and throat. In more serious reactions, there may be swelling of the mouth, back of the throat and windpipe as well as hives.

Food options/ Foods to avoid
The most typical foods associated with oral allergy syndrome (OAS) include: apple, apricot, kiwi, peach, plum, papaya, mango, melon, nectarine, etc.

Disease	Description
Parkinson	Parkinson's disease is a progressive nervous system disorder that affects movement. Symptoms start gradually, sometimes starting with a barely noticeable tremor in just one hand. Tremors are common, but the disorder also commonly causes stiffness or slowing of movement.
Food options/ Foods to avoid	
In patients diagnosed with Parkinson's disease, the diets they must follow are varied and balanced, prioritizing foods that are high in fibre and avoiding those that are astringent, high-calorie foods, whole nuts, fibrous meats that are difficult to chew, and fish should not contain bones.	

Disease	Description
Visually impaired people	Visual impairment is often defined as a best corrected visual acuity of worse than either 20/40 or 20/60. The term blindness is used for complete or nearly complete vision loss. Visual impairment may cause people difficulties with normal daily activities such as driving, reading, socializing, walking, visit museums, eating in restaurants, etc.
Food options/ Foods to avoid	
It is recommended to avoid foods that may cause some kind of digestive problem, such as avoiding fish with many bones. In addition, the menus should be in Braille and the people who serve them should indicate the order at the table as well as where they place each dish or drink.	

3.3 Nutrition During Pregnancy and Lactation

Nutrition in pregnancy and lactation is one of the most important factors affecting the health of the mother and child. It requires a careful balance of both quality and quantity of intake in order to optimize foetal growth and development in addition to avoiding

problems resulting from inadequate nutrition, as pregnant women are at risk of food borne illness i.e. listeriosis, toxoplasmosis, salmonella.

Listeriosis is an infection caused by eating food contaminated with the *Listeria monocytogenes* parasite, which can pass the infection to unborn babies. It is a mild illness for the mother but serious for the foetus, and can cause miscarriage, premature labour, or serious infections in the baby.

We should be aware that this disease is resistant to freezing, drying, heating and vacuum-packing food products. It grows at refrigeration temperatures from 1 - 45°C. It can survive high salt concentrations and gastric acid in the stomach.

Congenital toxoplasmosis is a disease that results from infection with the *Toxoplasma gondii* parasite during pregnancy. The consequences vary depending on the trimester in which it occurs. The main ways of infection are: raw, undercooked or cured meat that has not passed a thermal process and raw eggs.

Therefore, during pregnancy and lactation it should be avoided foods such as:

- Unpasteurized milk (also called raw milk) or eat any foods made with unpasteurized milk, such as some cheese (it should specify that it is pasteurized).
- Raw or undercooked meats, as well as pâtés, cold cuts or sausages.
- Smoked, salted, dried or undercooked fish and seafood.
- Fish that may have high levels of mercury.
- Alcohol and caffeine should be avoided.

The prevention measures are as follows:

- Use pasteurized milk or UHC.
- Cook food well +75°C.
- Separate raw and cooked foods, avoiding cross contamination.
- Wash vegetables and fruits properly.
- Read the food label carefully.
- The water to be ingested must be correctly treated.

4 INNOVATIVE EXAMPLE IN THE FIELD OF NUTRITION

4.1 *Dans Le Noir*

Nowadays, we can find some initiatives that, besides being innovative, promote awareness and sensitivity to visual impairment.

This is the case, for example, of *Dans Le Noir* restaurant chain, which is located in different cities (Barcelona, Paris, London, New York, Bordeaux, Nantes, Saint Petersburg, Marrakech, etc.). It is a unique sensorial and human experience where dinners are served in a completely dark room and blind waiters serve and guide the clients, so that everyone is under the same conditions.

These types of great initiatives not only promote the employment of visually impaired people, but also have managed to be a source of awareness about blind people. The objective is to promote opportunities for people with any kind of disability and to eliminate some of the prejudices that are held about them, since these people are just as effective and capable as other people.

The people in charge of this restaurant have the aim of transporting their clients on an initiatory journey through the senses, especially taste, smell and touch, and to open them up to new sensations and concerns. We can watch it in the following link:

[This is What it's Like to Eat in the Complete Dark - Eating Outside the Box, Episode 8](#)



4.2 Silent restaurant

There are many silent restaurants not only at European level but also at international level. This is the case of “The Silent restaurant” in China, where most of the staff is deaf, and everything is adapted to this type of special need. People can place their orders in Sign Language helped by posters with the signs. Therefore, clients with the same disability could feel more comfortable. Click on the following link to see the Silent restaurant video: <https://www.youtube.com/watch?v=VQVxM5oR7yc>.



If you are keen on learning more about similar initiatives, have a look at this link [here](#).

4.3 Foxes Hotel

At this hotel all the staff have special needs such as Down Syndrome, Autism, brain damage and mental illness. This makes the hotel even more accessible as it has a visitor car park with an access ramp to the automatically opening main door that leads to Hotel Reception, which makes access for wheelchairs and mobility scooters easier. In Foxes Hotel can also be found a four passenger ‘speaking’ lift to all guest floors, including the dining room, spacious bedrooms suitable for wheelchair users, some have their own ‘drive-in’ shower room, and a hearing loop in the Hotel lounge and bar. Visitor toilet facilities are all accessible for wheelchair users and fitted with appropriate grip rails and emergency alarm cords. This makes Foxes Hotel a truly unique experience. Click on the following link to see the documentary: <https://www.youtube.com/watch?v=v-lyoNwDxhs>



5 BIBLIOGRAPHY

ABC13 Houston. *MasterChef winner known as “The Blind Cook” opens first restaurant in Houston.* YouTube. <https://www.youtube.com/watch?v=fqFD6MT87iM>

Audiovisual.ec.europa.eu. (2019, August 23). Retrieved May 16, 2020, from <https://audiovisual.ec.europa.eu/en/video/l-133640>

Audiovisual.ec.europa.eu. (2019, August 23). Retrieved May 16, 2020, from <https://audiovisual.ec.europa.eu/en/video/l-191310?lg=EN%2FEN>

BezHladovění.cz - Magazín o hubnutí a zdravém životním stylu. (2019, May 9). Retrieved May 10, 2020, from <https://www.bezhladoveni.cz>

CelostniMedicina.cz | Informační server o zdraví. (2001, June 24). Retrieved May 10, 2020, from <https://www.celostnimediceina.cz>

Dans le noir LONDON restaurant insolite. (2012 May 20). Retrieved May 10, 2020, from <https://london.danslenoir.com>

Early Nutrition. *EarlyNutrition Recommendations for Family Planning- Trailer.* YouTube. <https://www.youtube.com/watch?v=AGBVA8vuBwk>

ENERGY CZ. (2017, June 16). Retrieved May 10, 2020, from <https://www.energy.cz/cz/>

European Commission, official website. (2017 January 1). Retrieved May 20, 2020, from https://ec.europa.eu/info/index_en

Food Safety - European Commission. (2015, June 26). Retrieved May 16, 2020, from https://ec.europa.eu/food/safety/labelling_nutrition/claims/health_claims_en

Food Safety - European Commission. (2009, May 5). Retrieved May 16, 2020, from https://ec.europa.eu/food/safety/labelling_nutrition/claims/nutrition_claims_en

Food Safety - European Commission. (2016, October 17). Retrieved May 16, 2020, from https://ec.europa.eu/food/safety/labelling_nutrition/claims_en

Food Safety - European Commission. (2017, June 7). Retrieved May 16, 2020, from https://ec.europa.eu/food/see-the/videos_en

Hlavní strana. Wikipedia. (2020, June 2). Retrieved May 10, 2020, from https://cs.wikipedia.org/wiki/Hlavn%C3%AD_strana

New China TV. (2019, May 22). *“Silent restaurant” gives disabled fair chance in life.* YouTube. <https://www.youtube.com/watch?v=VQVxM5oR7yc>

Only Human. (2017, January 6). *Welcome to the Strangest Hotel (Downs Syndrome Documentary) | Only Human.* YouTube. <https://www.youtube.com/watch?v=v-lyoNwDxhs>

Senioři a zdraví. (2018, November). Retrieved May 10, 2020, from <https://www.czso.cz/documents/10180/60664322/31003418b1.pdf/11e9eab0-c51b-4dda-8e05-0a8bfd1012e?version=1.0>

Úspěšná léčba. (2011, August 14). Retrieved May 10, 2020, from <https://www.uspesna-lecba.cz>

Vyvážené Zdraví.cz | Cítit se lépe. (2013, October 20). Retrieved May 10, 2020, from <http://www.vyvazenezdravi.cz>

Zelené potraviny Aktif a GW a vše kolem nich - Chlorella, Ječmen. (2007, May 29). Zelenyobchod.Cz. Retrieved May 10, 2020, from <https://www.zelenyobchod.cz>



 restatproject.eu