CORRECT IT!

Corrective VET international training
for obesity prevention and healthy life style promotion

Co-funded by the
Erasmus + Programme
of the European Union

HEALTHY LIFESTYLE CONCEPT ANALYSIS AND COLLECTION OF GOOD PRACTICES

Obesity significantly
increases the risk of chronic
diseases such a cardiovascular disease,
type-2 diabetes, hypertension, coronary
heart diseases and certain cancers.

PROJECT: No. 2017-1-RO01-KA202-037373

„Corrective VET international training for obesity prevention and healthy life style promotion"

CORRECT IT!
Corrective VET international training
for obesity prevention and healthy life style promotion

Co-funded by the
Erasmus + Programme
of the European Union

HEALTHY LIFESTYLE CONCEPT ANALYSIS AND COLLECTION OF GOOD PRACTICES

PROJECT: **No. 2017-1-RO01-KA202-037373**

„Corrective VET international training for obesity prevention and healthy life style promotion“

Content

Introduction

According to the World Health Organization (WHO), obesity is the largest unrecognized public health problem. It has great impact on morbidity and mortality worldwide. Obesity is the result of an unhealthy lifestyle. The publication highlights key healthy lifestyle factors, assesses the importance of a healthy lifestyle and introduces the main causes of obesity. The general aim of this study is to collect obesity prevention good practices and healthy lifestyles concept definitions in partner countries.

Objectives of this study:

1. to collect healthy lifestyles concept definitions;
2. to define the factors necessary for establishing effective health promotion approaches;
3. to collect obesity prevention good practices in partner countries
4. to define obesity cause, taking into account in different contexts - individual, family, organizational and environmental;
5. to reflect the exact place of healthy lifestyle in the countries studied.

The development of this analysis was coordinated by the NGO „Creativity future ideas“, Lithuania. The contents presented in this document were elaborated also with the contribution of CORRECT IT! partners:

Ordinul Asistentilor Medicali Generalisti, Moaselor si Asistentilor Medicali din Romania Filiala Iasi,

Asociatia Everest, Romania,

Instituto Politécnico de Portalegre, Portugal,

Triskelion, Norway,

Universita degli Studi di Foggia, – Italy.

1. The healthy lifestyle (HL) definitions

1 table

The healthy lifestyle definitions

Definition	Source, link, reference
A daily way of life that strengthens and improves the body's reserves opportunities, helps to stay healthy, safe and improve your health	Proškuvienė R., 2004, Sveikatos ugdymo įvadas. Vilnius: VPU leidykla. Gudžinskienė V., 2007, Mokymas sveikai gyventi: teoriniai ir praktiniai aspektai. Vilnius: VPU lei-dyk-la.
Healthy lifestyle is reflected not only by noticeable, obvious actions or behaviour, but also by psychological processes and experiences that can also be evaluated by scientific methods.	Gochman D. S., 1982, Labels, Systems, and Motives: Some Perspectives of Future Research. Health Education Quarterly, 9, p. 167–174. Gochman D. S., 1997, Health Behaviour Research: Definitions and Diversity. In D. S. Gochman (ed.) Handbook of Health Behaviour Research Vol. I. Personal and Social Determinants. New York: Plenum Press.
Healthy lifestyle includes the actions of individuals, groups, organizations, the factors affecting them and associated with them, including the social changes, the development and improvement of health policy, the improvement of quality of life.	Parkerson (1993), Parkerson G., 1993, Disease Specific Versus Generic Measurement on Health Related Quality of Life in Insulin Dependent Diabetic Patients. Medical Care, 31, p. 629–637.
A continuous set of individual behaviours and habits that reveals the peculiarities of his life	Adaškevičienė E. ir Strazdienė N. (2013), Vaikų sveikatą stiprinančio fizinio aktyvumo ugdymas. Klaipėda: Klaipėdos universiteto leidykla. ISBN 978-9988-18-718-9.
Healthy lifestyle is the whole of our everyday habits and customs	Urbonienė L. (2016), Sveikos gyvensenos pagrindai, arba ką mes žinome apie sveiką gyvenseną. [žiūrėta 2016 m. spalio 20 d.] Prieiga per: <http://www.aidas.lt/lt/sveikata/article/10874-06-06-sveikos-gyvensenos-pagrindai-arba-ka-mes-zinome-apie-sveika-gyvensena>.
Healthy lifestyle is a manifestation of human behaviour, habits and activities that affects not only the personal health but also the health of the people around them.	Zaborskis, A.; Lenčiauskienė, I. Health Behaviour among Lithuania's Adolescents in Context of European Union. Croatian Medical Journal. 2006, vol. 47 (2):
Healthy lifestyle is the behaviour of an individual that describes the interaction between the individual's personal characteristics, social interaction, and living conditions that are intended to enhance, maintain or maintain the present state of health.	World Health Organization: WHO (1998) http://apps.who.int/iris/bitstream/10665/258752/1/9789290225966-eng.pdf
Healthy lifestyle is a daily life that strengthens and improves the body's reserve capacities, helps people to stay healthy, save or even improve their health.	Mokinių fizinis aktyvumas ir sveikata. ZumerasR., Gurskas V. Sveikatos mokymo ir ligų prevencijos centras, 2012.

Healthy lifestyle is the right dose of exercise, a sensible diet, nice conversation with friends and a good night's sleep.	Talking to professionals
A healthy lifestyle is a lifestyle that limits the risk of getting sick and makes you better equipped if any illness comes your way.	Talking to professionals
Good mental health and regular exercise gives a healthy lifestyle	Talking to professionals
A healthy lifestyle is doing whatever you like that gives you inner peace, make you smile and whatever you think is good for your body and soul that makes you happy	Talking to professionals
According to the World Health Organization (WHO), health is a state of complete physical, mental, and social well-being. Interestingly health is not simply defined as just the absence of disease. A healthy lifestyle is based on: • Healthy and balanced nutrition • Physical activity • Emotional and spiritual wellness • Prevention of health risks Neglecting these basic rules in combination with following habits like smoking, regular alcohol consumption or drug misuse could be called an unhealthy lifestyle.	Healthy Lifestyle through Education http://www.healthbox.eu/fileadmin/user_upload/HealthBoxInfoBrochure_EN.pdf
According to the Portuguese Nurse Council , health is: Health is the state and, simultaneously, the mental representation of the individual condition, control of suffering, physical well-being and emotional and spiritual comfort. Because it is a mental representation, it is a subjective state; therefore, cannot be taken as a concept opposed to the concept of disease. The mental representation of the individual condition and well-being is variable in time, that is, each person seeks equilibrium at every moment, according to the challenges that each situation presents to him. In this context, health is a reflection of a dynamic and continuous process; every person wants to achieve the state of balance that is translated into the control of the suffering, physical well-being and emotional, spiritual and cultural comfort.	http://www.ordemenfermeiros.pt/Paginas/default.aspx
Lifestyle is a way of living based on identifiable patterns of behaviour which are determined by the interplay between an individual's personal characteristics, social interactions, and socioeconomic and environmental living conditions.	WHO – Health promotion Glossary (EN and ITA versions) file:///C:/Users/DIP.%20DISA/Desktop/Erasamus%20K2%20project%20master/OUTPUT%201/HPR%20Glossary%201998.pdfWHO glossary http://www.dors.it/documentazione/testo/201303/OMS_Glossario%201998_Italiano.pdf
Healthy lifestyle promotion is determinant factor for the welfare, for the quality of life and also for the sustainability of health system. Healthy lifestyle must avoid excess of alcohol consumption, smoking, use of drugs and must include correct diet, sport and activity, risk evaluation factor screening.	Italian National ministry of Health website http://www.salute.gov.it/portale/salute/p1_4.jsp?lingua=italiano&area=Vivi_sano http://www.salute.gov.it/imgs/C_17_pubblicazioni_1181_allegato.pdf
Correct and balanced nutrition is fundamental for the human health. Following WHO definitions, adequate nutrition and health are closely correlated fundamental human rights. Moreover a correct diet is the key for preventing many diseases and an active treatment for many others.	Italian National federation of nurses colleges (IPASVI) http://www.ipasvi.it/ecm/percorsi-guidati/l-alimentazione-come-stile-di-vita-per-una-buona-salute-id4.htm

Healthy lifestyle represents all the behaviours that are relevant to promoting and maintaining health and reducing the risk of illness. The negative life stays in behaviour that involves a health risk. Life style refers to all the activities that make up the life of a person, group, community, but from an internal - structural and normative perspective.	Ghid - Educatie pentru o viata sanatoasa http://5.2.199.29/sites/default/files/05.%20Ghid%20-%20Educatie%20pentru%20o%20viata%20sanatoasa.pdf
Lifestyles are a set of habits and behaviours that respond to everyday situations, seized through the process of socialization and constantly reinterpreted and tested, throughout the life cycle.	https://www.dgs.pt/paginas-de-sistema/saude-de-a-a-z/saude-escolar/estilos-de-vida.aspx

Under analysis scientific literature, discussions with professionals, finally Healthy Lifestyle definition was agreed between partners:

Healthy lifestyle is a daily way of life that strengthens and improves the body's reserve capacities, helps people to stay healthy, save or even improve their health.

According to the World Health Organization, a person's lifestyle has up to 50 percent of his health, while the living environment and heredity have only 20 percent significance for the individual's health, and medicine contributes only 10 percent to a persons' healthy. What shows that the person himself is responsible for his health, well-being and the body's condition? And only he can keep it on perfect condition or get up and be ill part of his life and do not feel the pleasure of living.

2 table

Healthy lifestyle factors

Factors	Positive impact on health	Negative impact on health
Habits, attitudes	Active promotion of healthy lifestyle	Not promoting healthy lifestyles
Skills	Healthy lifestyle training, organization of health promotion activities	Wrong healthy lifestyle training
An example	A positive, right healthy lifestyle example of parents and other relatives	Negative example of parents and other relatives
Disease seriousness perception	Understood the threat to health	Insufficient attitude to health
Motivation	Understanding the benefits of healthy lifestyle	Insufficient knowledge
	Imaginary positive social norms	Imaginary negative social norms
	Individual motivation	The fear of changes
Knowledge	Sufficient information	Inadequate knowledge

Gustaitienė L. (2003). Health policy and organization. Kaunas: VDU.

2. HL elements, their interrelationship and the impact to HL

(How each component effects healthy lifestyle and obesity?)

An analysis of various scientific sources makes it clear that a healthy lifestyle is a multivariate concept that includes the following main elements:

- nutrition;
- breastfeeding;
- physical activity / passivity;
- consumption / non-consumption of tobacco;
- consumption / non-consumption of alcohol and other psychoactive substances;
- the use of pharmaceuticals;
- work and rest (sleep) mode;
- sexual behaviour;
- the stress and ability to overcome it;
- hygiene habits;
- preventive health check-ups;
- any behaviour that can affect health (e.g., driving habits, seat belts in the car, participation in fights, long sunbathing or solarium, promotion of health-promoting sports, water consumption, etc.).

There is direct correlation between **Nutrition** and weight management. There are Five Effects of Healthy Nutrition:

1. **Weight Management.** A balanced nutrition helps keep your energy levels high. To make the most of your healthy diet, consume a variety of foods from all of the major food groups: fruits, vegetables, grains, proteins and dairy. Aim for a balance between nutrients, calories and portion size by choosing the most nutrient-dense foods available to you.
2. **Growth and Development.** Optimal childhood growth and development rely upon proper nutrition. Children who receive proper nutrition tend to be more energetic and playful and score higher on intelligence tests, according to Wisconsin's Early Childhood Excellence Initiative (http://www.researchconnections.org/childcare/resources/6455).
3. **Anti-Aging.** Good nutrition may increase your lifespan and keep you healthier as you age. Some substances, many of which are antioxidants, may stem inflammation and inhibit some of the degenerative changes associated with aging.
4. **Immune-Boosting.** Your immune system relies on both macronutrients: proteins, carbohydrates and fats, and micronutrients: vitamins and minerals, supplied by your daily diet to remain healthy. By improving individual cell function as well as interactions between cells, adequate nutrition makes you more resilient to infection. A study of female soccer players published in the July 2012 issue of the "Journal of the International Society of Sports Nutrition" (https://jissn.biomedcentral.com/articles/10.1186/1550-2783-9-32) found those who ate a healthy diet experienced less oxidative stress, lower levels of inflammation and better immune status after the stress of a soccer match compared to a group with lower nutritional status.
5. **Mood.** Good nutrition translates to better moods. If your diet is high in sugary and

starchy foods you might experience blood sugar swings that cause irritable or sad moods.

Because a growing body of evidence suggests that **breastfeeding** offers protection against excessive weight gain in childhood and adolescence, breastfeeding kept as a reasonable strategy for reducing children's risk of becoming overweight.

Regular **physical activity** is essential for a healthy life. People with risk factors such as obesity, may particularly benefit from physical activity (Affective Responses to Intermittent Physical Activity in Healthy Weight and Overweight/Obese Elementary School-Age Children. Human kinetics: Volume 14 Issue 11, November 2017). Regular physical activity is one of the most important things people can do for their health. Regular physical activity can help keep thinking, learning, and judgment skills sharp as you age. It can also reduce risk of depression and may help sleep better. Research has shown that doing aerobics or a mix of aerobic and muscle-strengthening activities 3 to 5 times a week for 30 to 60 minutes can give you these mental health benefits. Some scientific evidence has also shown that even lower levels of physical activity can be beneficial. The human body is not made for sitting all life. It's made for walking, running, dancing – physical activities in real space. It is supposed to move freely in nature, in open spaces. It is meant to be strong, to be flexible, to stretch and bend and rotate. But the majority of the people spend most of their time sitting on chairs or in cars. Physical passivity is a crime against the body. People are imprisoned a considerable part of their self, deprive their muscles, tendons and ligaments of the motions their need and deprive their lungs of proper airing. Your metabolism cannot function properly if you do not move. Whole body degenerates slowly, becoming ever weaker and stiffer with age. This leads to the sad phenomenon of old people who suffer from extreme pain and disability.

Consumption of **tobacco** and healthy lifestyle is incompatible. Non-communicable diseases (NCD) like ischemic heart diseases, cancers, diabetes, chronic respiratory diseases are the leading causes of death globally and associated with tobacco use. Available data from WHO demonstrate that thirty-eight million people die each year from NCDs, of which nearly 85% of NCD deaths occur in low- and middle-income countries (WHO. Non-communicable Diseases Country Profiles. 2014. Available from http://apps.who.int/iris/bitstream/10665/128038/1/9789241507509_eng.pdf. Accessed on 20th September 2014).

Forms of tobacco intake

1. Cigarette - Most common and most harmful
2. Bidi – most commonly used form in India
3. Cigar -
4. Hookah (Hubble bubble)
5. Shisha
6. Tobacco chewing
7. Kreek's (clove cigarettes)
8. Snuff – Moist & Dry
9. E-cigarette – recent intruder in the list

When non-smokers are exposed to smoke containing nicotine and toxic chemicals emitted by smokers it is called *passive smoking or exposure to second hand smoke*.

The health effects of **alcohol** are actually quite complex. Alcohol is the most popular recreational "drug" in the world. It can have very powerful effects on your mood and mental state. On the one hand, moderate amounts have been linked to health benefits. On the other hand, it's addictive and very toxic when people drink too much of it. Alcohol can reduce self-consciousness and shyness, making it easier for people to act without inhibition. At the same time, it can impair judgment and make people do things that they end up regretting. Chronic alcohol abuse can have severe detrimental effects on your body and brain, increasing the risk of all sorts of diseases. However, some alcoholic drinks are better than others. Red wine is probably the healthiest alcoholic beverage, probably due to its high concentration of antioxidants. Alcohol's effects can include:

1. Reduced inhibitions
2. Slurred speech
3. Motor impairment
4. Confusion
5. Memory problems
6. Concentration problems
7. Coma
8. Breathing problems
9. Death

Other risks of drinking can include:

1. Car crashes and other accidents
2. Risky behaviour
3. Violent behaviour
4. Suicide and homicide

Every **drug** is a triangle with three faces, representing the healing it can bring, the hazards it can inflict and the economic impact of each. A pharmaceutical drug (also referred to as medicine, medication, or simply as drug) is a drug used to diagnose, cure, treat, or prevent disease. Do you always have to take pharmaceutical drug when you get sick or feel pain? If you have a headache, do you drink some fluids and take a rest? Or do you reach for the painkillers? For most of us, the latter is likely to be the first port of call. With our increasingly busy lifestyles, we tend to opt for a quick fix to our ailments, and this often involves a pill of some kind. But have we become too reliant on modern medicines? And if so, could this be doing us more harm than good? It is easier for patients to pop a pill than make lifestyle changes.

The problem with some pharmaceutical drug like opioids and many other analgesics is that they can become addictive. Opioid medications can produce a sense of well-being and pleasure because these drugs affect brain regions involved in reward. People who abuse opioids may seek to intensify their experience by taking the drug in ways other than those prescribed.

Or, for example, antibiotics. The use of antibiotics at any time in any setting puts biological pressure on bacteria that promotes the development of resistance. When antibiotics are needed to prevent or treat disease, they should always be used. But inappropriate use of antibiotics unnecessarily promotes antibiotic resistance.

Work and rest (sleep) mode is also important for healthy life. Not getting enough sleep leaves us tired during the day. But the body's clock also affects mood, mental alertness, hunger, and heart function. Disrupting our body's natural cycles can cause problems. Studies have found there are more frequent traffic accidents and workplace injuries when we spring forward and lose an hour of sleep. Heart patients are at greater risk for myocardial infarction in the week following the Daylight Savings time shift. But even more significant is that science continues to discover important connections between a disrupted clock and chronic health issues, from diabetes to heart disease to

cognitive decline. It turns out that the same genes and biological factors that govern our internal clock are also involved in how other body systems operate -- and break down. We're beginning to understand more about how the clock interacts with and helps govern the function of other systems and affects our overall health. In fact, keeping your body's daily cycle on an even keel may be one of the best things you can do for your overall health.

Sexual behaviour affects our health. Sexual health is defined by the WHO as

- Enjoyment of sexual relation without exploitation, oppression or abuse.
- Safe pregnancy and childbirth, and avoidance of unintended pregnancies.
- Absence and avoidance of sexually transmitted infections, including HIV.

Unhealthy sexual behaviour can lead to deviance from any of these three points. Researches supports the conclusion that in concentrating resources on the young and on unmarried individuals large numbers of individuals at an elevated risk for AIDS/HIV in other population groups will be missed The strong relationships between indicators of health lifestyle and sexual behaviour seem to be a factor to be considered in the development of future AIDS/HIV-related health interventions. (D. G. Uitenbroek, The relationships between sexual behaviour and health lifestyle, Journal Psychological and Socio-medical Aspects of AIDS/HIV, Volume 6, 1994 - Issue 2).

We all experience **stress**. And, just as stress comes from many areas of life, effective stress management comes from combating stress on many different fronts. The important way to relieve stress is to maintain healthy lifestyle habits. Maintaining a balanced, healthy lifestyle is important for several reasons:

- Healthy lifestyle habits can also help you reverse your stress response, enabling you to avoid or even reverse the negative effects of chronic stress.
- Healthy lifestyle habits often bring additional benefits, such as an endorphin rush, a release of frustration, or added longevity.
- Many of the healthy lifestyle habits discussed here can also help you to become less reactive to stress in the long run, providing protection against stress you haven't even experienced yet!

Good personal **hygiene habits** are essential to promoting good health. Personal hygiene habits such as washing your hands and brushing and flossing your teeth will help keep bacteria, viruses, and illnesses at bay. And there are mental as well as physical benefits. “Practicing good body hygiene helps you feel good about yourself, which is important for your mental health,” notes Donald Novey, M.D., a family medicine doctor, the founder and president of Integrative Medicine Associates. If you want to minimize your risk of infection and also enhance your overall health, follow these basic personal hygiene habits:

- Bathe regularly
- Trim your nails
- Brush and floss
- Wash your hands
- Sleep tight (https://www.everydayhealth.com/healthy-living/guide-to-good-hygiene.aspx)

Regular health exams and tests can help find problems before they start. They also can help find problems early, when your chances for treatment and cure are better. By getting the right health services, screenings, and treatments, you are taking steps that help your chances for living a longer,

healthier life. Your age, health and family history, lifestyle choices (i.e. what you eat, how active you are, whether you smoke), and other important factors impact what and how often you need healthcare.

Obesity usually results from a combination of causes and **contributing factors**, including:

- **Genetics.** Your genes may affect the amount of body fat you store, and where that fat is distributed. Genetics may also play a role in how efficiently your body converts food into energy and how your body burns calories during exercise.
- **Family lifestyle.** Obesity tends to run in families. If one or both of your parents are obese, your risk of being obese is increased. That's not just because of genetics. Family members tend to share similar eating and activity habits.
- **Inactivity.** If you're not very active, you don't burn as many calories. With a sedentary lifestyle, you can easily take in more calories every day than you burn through exercise and routine daily activities. Having medical problems, such as arthritis, can lead to decreased activity, which contributes to weight gain.
- **Unhealthy diet.** A diet that's high in calories, lacking in fruits and vegetables, full of fast food, and laden with high-calorie beverages and oversized portions contributes to weight gain.
- **Medical problems.** In some people, obesity can be traced to a medical cause, such as Prader-Willi syndrome, Cushing's syndrome and other conditions. Medical problems, such as arthritis, also can lead to decreased activity, which may result in weight gain.
- **Certain medications.** Some medications can lead to weight gain if you don't compensate through diet or activity. These medications include some antidepressants, anti-seizure medications, diabetes medications, antipsychotic medications, steroids and beta blockers.
- **Social and economic issues.** Research has linked social and economic factors to obesity. Avoiding obesity is difficult if you don't have safe areas to exercise. Similarly, you may not have been taught healthy ways of cooking, or you may not have money to buy healthier foods. In addition, the people you spend time with may influence your weight — you're more likely to become obese if you have obese friends or relatives.
- **Age.** Obesity can occur at any age, even in young children. But as you age, hormonal changes and a less active lifestyle increase your risk of obesity. In addition, the amount of muscle in your body tends to decrease with age. This lower muscle mass leads to a decrease in metabolism. These changes also reduce calorie needs, and can make it harder to keep off excess weight. If you don't consciously control what you eat and become more physically active as you age, you'll likely gain weight.
- **Pregnancy.** During pregnancy, a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born. This weight gain may contribute to the development of obesity in women.
- **Quitting smoking.** Quitting smoking is often associated with weight gain. And for some, it can lead to enough weight gain that the person becomes obese. In the long run,

however, quitting smoking is still a greater benefit to your health than continuing to smoke.

- **Lack of sleep.** Not getting enough sleep or getting too much sleep can cause changes in hormones that increase your appetite. You may also crave foods high in calories and carbohydrates, which can contribute to weight gain.

3. Personal HL experience:

3.1. Personal evaluation of the HL/ obesity level.

How each person can evaluate the level of healthy lifestyle / obesity? Methodology, questionnaires

As with any journey, to reach our destination we need to know our starting point. Knowing that starting point and understanding your current health status is a key part of building your personal health plan.

Lithuania:

Personal evaluation of the HL/ obesity level test can be done using these tools: http://www.theathleticclubs.ca/media/file/NEWWellness%20Self-Evaluation-1.pdf
http://www.drwayneandersen.com/health-assessment/
http://sveikata.lrytas.lt/gyvenu-sveikai/testas-pasitikrinkite-kiek-zinote-apie-sveika-gyvensena.htm

Waist circumference:

If the circumference of your waist is greater than your hips — you carry more weight above the hips — you have an increased risk of heart disease and type 2 diabetes. The risk is even greater for women if waist circumference is 89 centimetres or more and for men if waist circumference is 102 centimetres or more.

With a cloth measuring tape, measure your waist circumference just above the hipbones.

Body mass index

Your body mass index (BMI) is a calculation that indicates whether you have a healthy amount of body fat. You can determine your BMI with a BMI table or online calculator.

The body mass index (BMI) is a value derived from the mass (weight) and height of an individual. The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m2, resulting from mass in kilograms and height in metres. The following BMI results demonstrate whether you are at a healthy weight.

3 table

BMI results

Interpretation of BMI results	
BMI	**Weight status**
Below 18.5	Underweight
18.5-24.9	Normal weight
25.0-29.9	Overweight
30 and above	Obesity

Obesity or overweight status is defined by body mass index (BMI), which is derived by dividing weight in kilograms by the square of height in meters.

BMI classifications (International)

BMI of less than 18.5 kg/m2

A BMI of less than 18.5 indicates that you are underweight, so you may need to put on some weight. You are recommended to ask your doctor or a dietician for advice. BMI of 18.5–24.9 kg/m2 A BMI of 18.5–25 indicate that you are at a healthy weight for your height. By maintaining a healthy weight, you lower your risk of developing serious health problems.

BMI of 25–29.9 kg/m2

A BMI of 25–30 indicates that you are overweight. You may be advised to lose some weight for health reasons. You are recommended to talk to your doctor or a dietician for advice. BMI of over 30kg/m2 A BMI of over 30 indicate that you are obese. Your health may be at risk if you do not lose weight. You are recommended to talk to your doctor or a dietician for advice.

Obesity or overweight status is defined by body mass index (BMI), which is derived by dividing weight in kilograms by the square of height in meters. Measurements can be done using this tool: http://www.obesity.ulaval.ca/obesity/generalities/evaluation.php.

Portuguese Program for the Promotion of Physical Activity (https://www.dgs.pt/pns-e-programas/programas-de-saude-prioritarios/atividade-fisica.aspx**)**

The National Program for the Promotion of Physical Activity (PNPAF), with implementation for the period 2016-2019 and aligned with the National Health Plan, 2016-2020 extension, will seek to respond to the guidelines established in the National Strategy for the Promotion of Physical Activity, Health and Welfare,

The Program has as vision a national population with low levels of physical inactivity throughout the life cycle, motivated by high levels of physical literacy, autonomy and readiness, inserted in a physical and sociocultural environment that facilitates more physical activity and less sedentary time in school and university, leisure, work and mobility.

The annual costs of inactivity in Portugal were conservatively estimated at about 270 million EUR. Taken together, these values show the extent of the problem associated with physical inactivity and reinforce the urgent need for integrated strategies to reduce sedentary behaviours and increase levels of physical activity in the population.

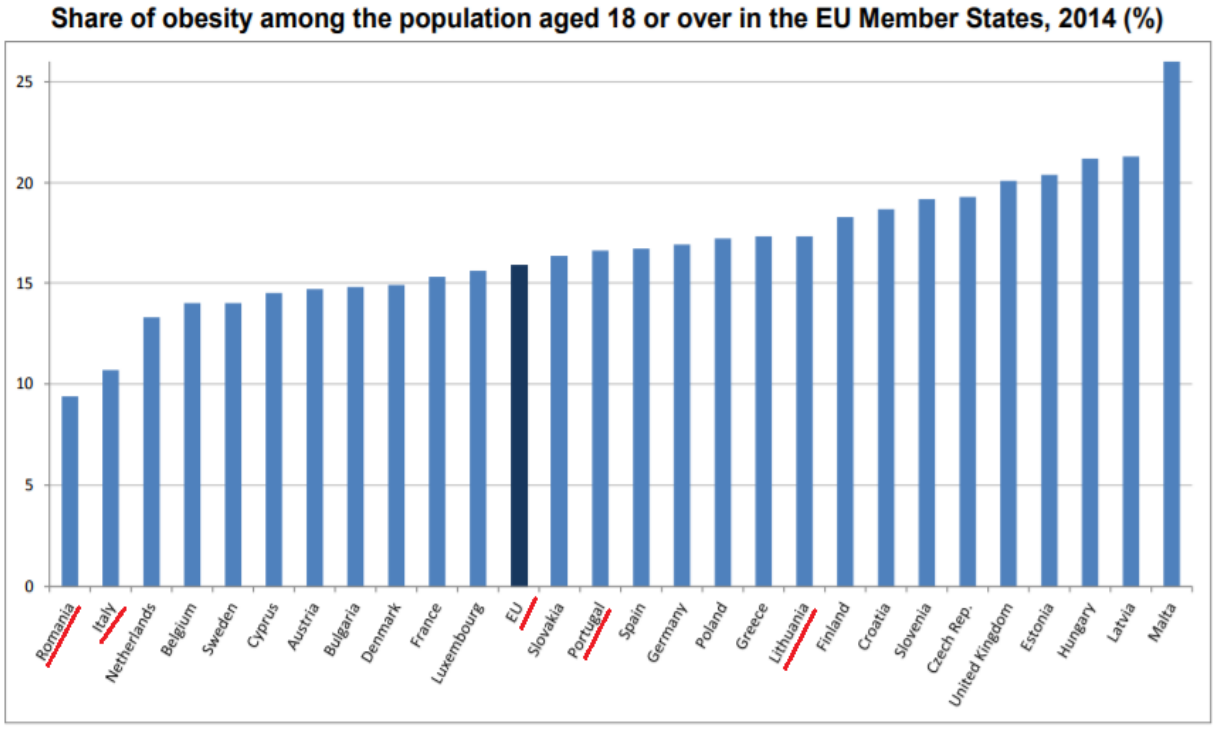
3.2. Obesity statistics in partner countries

Statistical analysis: results of researches, statistical data, the national average.

Considering that the prevalence of obesity in the world has doubled between 1980 and 2014, with over 20 billion people over 18 years being overweight and over 600 million being obese. Over 39% of adults over 18 were overweight and 13% were obese. At a **European** level, according to Eurostat[1], almost 1 adult in 6 is considered obese. Share of obesity increases with age and decreases with education level.

[1] European Health Interview Survey no. 203/2016, 20.08.2016, http://ec.europa.eu/eurostat/documents/2995521/7700898/3-20102016-BP-EN.pdf/c26b037b-d5f3-4c05-89c1-00bf0b98d646

The information in this report was structured based on the Healthy lifestyle concept analysis and collection of good practices.



1 graph. Obesity among population in the EU, 2014, %

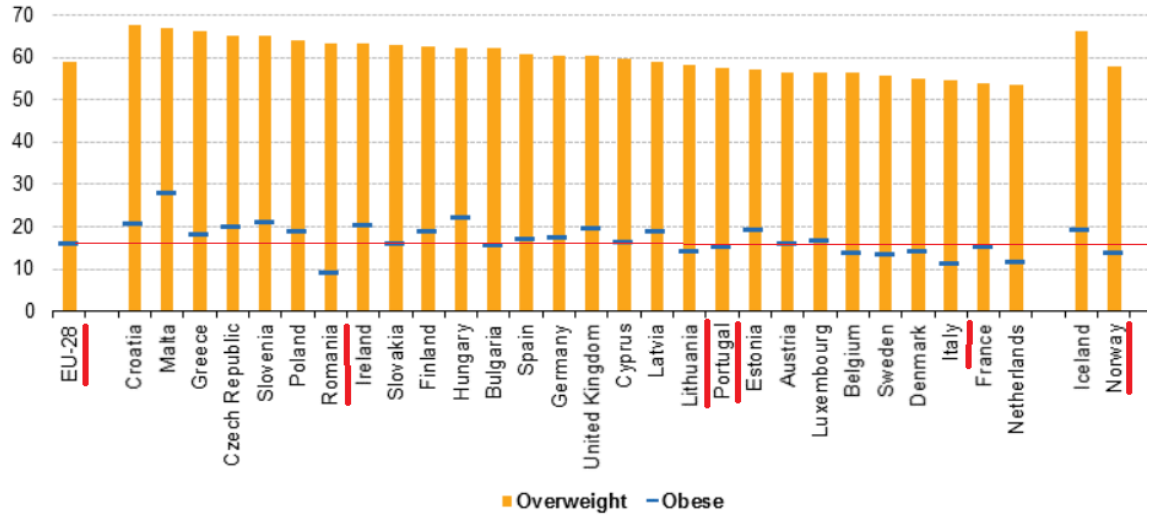
Among the EU Member States for which data are available, the lowest shares of obesity in 2014 among the population aged 18 or over were recorded in Romania (9.4%) and Italy (10.7%), ahead of the Netherlands (13.3%), Belgium and Sweden (both 14.0%). At the opposite end of the scale, obesity concerned more than 1 in 4 adults in Malta (26.0%), and about 1 in 5 in Latvia (21.3%), Hungary (21.2%), Estonia (20.4%) and the United Kingdom (20.1%).

4 table

Obesity statistics in EU

1. Main statistical findings (an objective situation) The EU population is approx. 511,805,100	http://ec.europa.eu/eurostat/documents/2995521/8102195/3-10072017-AP-EN.pdf/a61ce1ca-1efd-41df-86a2-bb495daabdab
1.1. Eurostat report: 46.1% of those aged 18 or over living in the European Union (EU) had a normal weight in 2014, slightly more than half of the adults (51.6%) were considered as over-weight (35.7% pre-obese and 15.9% obese) and a further 2.3% as under-weight. In other words, nearly 1 in every 6 persons aged 18 or over in the EU was obese in 2014. Obesity is a serious public health problem that can be statistically measured using the Body Mass Index (BMI) of adults. Obesity is defined as a BMI of 30 or over.	http://ec.europa.eu/eurostat/documents/2995521/7700898/3-20102016-BP-EN.pdf/c26b037b-d5f3-4c05-89c1-00bf0b98d646

1.2. Lowest share of obesity in Romania and Italy, highest in Malta	http://ec.europa.eu/eurostat/documents/2995521/7700898/3-20102016-BP-EN.pdf/c26b037b-d5f3-4c05-89c1-00bf0b98d646
1.3. A good tool for exploring the Obesity statistics and related data is using the Obesity Atlas. Related data can also be found regarding Drivers of obesity, impact, actions being taken.	https://www.worldobesity.org/data/map/overview-adults
1.4. In the EU, adults over 18, who were considered to be overweight varied between 36.1 % in Italy and 55.2 % in Malta and for women and between 53.6 % in the Netherlands and 67.5 % in Croatia for men in 2014	http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_ehis_bm1e&lang=en
1.5. For the population 18 years and over, the lowest proportions of women considered to be obese in 2014 were observed in Romania (9.7 %), Italy (10.3 %), Cyprus (12.9 %) and Austria (13.4 %), and of men in Romania (9.1 %), Italy (11.3 %), Netherlands (11.6 %) and Sweden (13.6 %).	http://ec.europa.eu/eurostat/statistics-explained/index.php/Overweight_and_obesity_-_BMI_statistics
1.6. The highest proportions of women who were obese were recorded in Malta (23.9 %), Latvia (23.3 %), Estonia (21.5 %) and the United Kingdom (20.4 %), and of men in Malta (28.1 %), Hungary (22.0 %), Slovenia (21.0 %) and Croatia (20.7 %)	http://ec.europa.eu/eurostat/statistics-explained/index.php/Overweight_and_obesity_-_BMI_statistics
1.7. There was no systematic difference between the sexes as regards the share of obese women and men in 2014.	http://ec.europa.eu/eurostat/statistics explained/index.php?title=Overweight_and_obesity_-_BMI_statistics&oldid=334655



Note: population aged 18 and over.

2 graph.Obesity and overweight in partner countries

Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Proportion_of_overweight_and_of_obese_men,_2014.png

Intercountry comparable overweight and obesity estimates show that 60.7% of the adult population (>20 years old) in **Lithuania** were overweight and 27.6% were obese. The prevalence of overweight was higher among men (64.0%) than women (57.9%). The proportion of men and

women that were obese was 24.8% and 29.9%, respectively. Adulthood obesity prevalence forecasts (2010–2030) predict that in 2020, 12% of men and 14% of women will be obese. By 2030, the model predicts that 10% of men and 10% of women will be obese. In terms of prevalence of overweight and obesity in adolescents, up to 27% of boys and 13% of girls among 11-year-olds were overweight, according to data from the Health Behaviour in School-aged Children (HBSC) survey. Among 13-year-olds, the corresponding figures were 18% for boys and 11% for girls, and among 15-year-olds, 15% and 5%, respectively. Among 7-year-olds children in Lithuania, 24.8% of boys and 21.0% of girls were overweight and 9.4% and 7.2%, respectively, were obese.

In comparison with 30 other European countries, **Italy** is one of the countries with highest obesity prevalence. In **Italy**, in 2015, more than one third of adult population (35,3%) is overweight , while almost one tenth is obese (9,8%); globally the 45,1% of people In the age ≥18 is in excess of fat. There's a significant difference in the southern regions, where obesity and overweight prevalence is higher (about 12% and 38%) than in the northern regions (obesity 8%, overweight 29%). The percentage of overweight generally increases with the age, from 14% of 18-24 years age to 46% between age 65-74, while the obesity increases from 2,3% to 15,3% for the same age ranges. Moreover the overweight condition is higher for men than women (overweight: 44% vs 27,3%; obesity: 10,8% vs 9%, respectively). (Epicentro – ISS 2015). About childhood, a survey conducted in 2016 shows what the 21,3% of children was overweight while the 9,3% was obese. About the regional variability, the higher prevalence in the south with respect to the north is confirmed. In 2016, among the mothers of overweight or obese children the 37% thinks that her child is under- or normal- weighted and only the 30% thinks that children daily food intake is in excess. About Elderly: the majority of over 64 y.o. (57%) has some weight excess, 42% is overweight and 15% is in the range of obesity.

According to the **Norwegian** public health institute "official national review on public health" (Folkehelserapporten (nettutgaven) - Helsetilstanden i Norge accessed 3.12.17) - https://www.fhi.no/nettpub/hin/. Most groups in society have become healthier in the last 30 years. The health benefits have been greatest for those who already had the best health – those with long education, good income and who are in a relationship. The health benefits have not increased as much for those with lower education and income. Therefore, inequalities in health have increased, particularly in the last decade.

In 2007, the Ministry of Health and Care Services published a national strategy for minimising social health differences (Report No.20 to the Storting, 2007). As background information for this Parliamentary report, the Norwegian Institute of Public Health compiled a fact report about social inequalities in health (Næss, 2007). The report contains, amongst others, these main points are valid for Norway:

- Norwegian children and adolescents are in good health. However, there are health differences linked to parental income, education and marital status.
- For adults:

- There are large differences in self-evaluated health and symptoms of psychological distress.
- There are large differences in chronic diseases, that can increase the risk of a premature death
- Single men and women with low income and low education are particularly vulnerable to a premature death.

- Self-evaluated health in the elderly is better than before, but there are clear differences according to education duration. Those with the least education report chronic diseases more often.

Lifestyle plays a large role in motivation and ability to maintain positive habits such as regular physical activity, healthy diet and abstinence or limited use of tobacco and other intoxicants. However, it appears that the prevalence of obesity among subjects is lower in Norway than in many other countries (OECD, 2012). Different methods have been used and there are different qualities in the studies used as the basis for the comparisons. It is therefore difficult to place Norway in the international rankings.

Some statistics about health in Norway from (Folkehelserapporten (nettutgaven) - Helsetilstanden i Norg, accessed 3.12.17) - https://www.fhi.no/nettpub/hin/;

Approximately 1 in 4 middle-aged men and 1 in 5 women have obesity with a body mass index of 30 kg / m2 or higher in Norway. Among children, the proportion with overweight and obesity appears to have stabilised. In total, between 15 and 20 per cent of children are overweight or obese (about 1 in 6 children). There are signs that the trend has levelled out. In total, 1 in 4 young people (about 25 per cent) are overweight or obese. There are indications that the proportion is increasing. About 1 in 4 men and 1 in 5 women aged between 40-45 years are obese. The proportion has increased in the last 40-50 years. The proportion with overweight comes in addition to the proportion with obesity. A high BMI contributes to approximately 2400 annual deaths in Norway (population- 5 million) and probably many cases of cardiovascular disease, diabetes and other chronic diseases. More people will live with chronic diseases. More people will live with cancer and fewer will die of heart disease. More people will develop dementia. The prevalence of fractures is particularly high in Norway. Four key factors are important for healthy ageing: high cognitive activity, physical activity, an active social life and a healthy diet. On average, Norwegians aged over 15 years drink about 8 litres of pure alcohol per year. Since the early 1990s, the consumption of alcohol has increased by approximately 40 per cent, mostly among women and the elderly. New synthetic drugs have unknown effects and are a challenge for the health service. The number of drivers arrested for driving under the influence of cannabis or methamphetamine has increased sharply over the last five years. Approximately 1 in 5 adults reaches the Norwegian Directorate of Health's minimum recommendation of at least 30 minutes physical activity per day on average. Lifetime prevalence, i.e. the proportion of the population who will have one or other mental disorder during their lifetime, ranges from 25 per cent to 52 per cent. The average prevalence is around 40 per cent. The proportion of the population who have had a disorder in the last 12 months ranges from approximately 10 per cent to 33 per cent. The highest international figures are from the most reputable international studies, NCR and NEMESIS. The Norwegian figures resemble these.

Statistics **Portugal** presents the main results of the National Health Survey 2014 (INS 2014), which was implemented in collaboration with the National Health Institute Doutor Ricardo Jorge (INSA), in the whole country between September and December 2014. The main objective was to characterize the resident population aged 15 years or over in three domains: health status, health care, and health determinants.

- 9.3% of the population aged 15 or more years (about 828 thousands) reported having diabetes mellitus, an increase of 21.9% when compared to 2005/2006 (685 thousand);

- 2.2 million people (25.3%) reported having high blood pressure in 2014, with an increase vis-à-vis 2005/2006 (23.4%);

- About 2.1 million people consumed medicines without prescription, equivalent to 23.9% of the population aged 15 or more years of age;

- More than half of the population aged 18 or over (4.5 million) was overweight or obese, with 43.9% having a normal weight (3.8 million) and 1.8% low weight (155 thousand); Obesity affected 1.4 million people 18 years of age or older, women being more affected than men. The results showed that obesity mainly affected the population between 45 and 74 years, while overweight of grade II was observed mainly in the population between 65 and 74 years.

- More than 6 million people aged 15 or over (70.8%) consumed fruit every day and 4.9 million (55.1%) consumed vegetables and salads daily;

According to Eurostat figures released in October 2016, **Romania** had the lowest share of obesity among the population aged 18 or over in the EU in 2014. However, a 2014- 15 study by the Romanian Association for the Study of Obesity (RASO), based on a representative sample of adults in eight regional centres, found that 21.3% of those aged over 18 were obese and 31.3% were overweight (the so-called ORO study).And projections from the World Health Organisation (WHO) predict that more than two-thirds of adults in Romania (69%) will be either overweight or obese by 2025, up from 66% in 2015.

3.3. HL improvement possibilities for individuals

Where individuals can improve their health? Sport clubs, consultations, trainings, etc…

WHO recommendations:

- Children and adolescents aged 5-17years

- Should do at least 60 minutes of moderate to vigorous-intensity physical activity daily.
- Physical activity of amounts greater than 60 minutes daily will provide additional health benefits.
- Should include activities that strengthen muscle and bone, at least 3 times per week.

- Adults aged 18–64 years

- Should do at least 150 minutes of moderate-intensity physical activity throughout the week, or do at least 75 minutes of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity.
- For additional health benefits, adults should increase their moderate-intensity physical activity to 300 minutes per week, or equivalent.
- Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week.

- Adults aged 65 years and above

- Should do at least 150 minutes of moderate-intensity physical activity throughout the week, or at least 75 minutes of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity.
- For additional health benefits, they should increase moderate-intensity physical activity to 300 minutes per week, or equivalent.
- Those with poor mobility should perform physical activity to enhance balance and prevent falls, 3 or more days per week.
- Muscle-strengthening activities should be done involving major muscle groups, 2 or more days a week.

Following the results of national and regional surveys, the most important action to improve healthy lifestyle, particularly for children and elders, is the increase of physical activity.

The 23,5% of 8-9 years old children dedicates no more than one day a week to active movement games and 33,8% no more than one day of structured physical activity (training, sport etc.) in **Italy**. The Increase of sedentary job for 25-65 age people and general sedentary life of the elders increases the issue of lack of physical activity as one of the drivers of high rate of overweight in Italy. For the urban mobility people at all ages still relies too much on private transportation (private car) while the increase of the use of bike, so as walking, could contribute to a more active and healthy lifestyle. About food the unbalanced diet, particularly towards excess carbohydrates (mostly refined and/or in the form of sugars) and reduced intake of fruits and vegetables, could be consistently improved and contribute to increase global health perspectives at all ages. Other food habit that is affecting unbalanced nutrition is the lack of breakfast (7% of "breakfast skipper" in Italy), particularly for children and active population (age 25-65) since it increases the consumption of snacks during the day, most of them sweet cakes, candy bars etc. so as increases the calories intake during lunch and dinner.

The intensity of different forms of physical activity varies between people. In order to be beneficial for cardiorespiratory health, all activity should be performed in bouts of at least 10 minutes duration.

Dietary aspects: The individual control of body weight is considered the first step, also by checking the BMI and the waist circumference, since childhood. Italian Association of Nursery schools (IPASVI) suggest to generally evaluating a balanced diet when calories source from food are as follows: 55-60% from carbohydrates, 28-30% from fats, 10-12% from proteins. About the meal distribution, calories should be introduced as follows: 20% from the breakfast, 40% for the lunch; 30% from the dinner and two portions of 5% from half morning and half afternoon breaks.

Apart from the caloric content and nutritional balance of the food, also the risk of chemical and microbiological food contamination must be prevented, by adopting correct practices such as food selection at the market, correct handling and processing at home, so as correct storage for mid-long term periods.

Physical activity: An active lifestyle that is considered sufficient to prevent obesity and other risks for the health must start from the everyday habits. People should prefer the use of their body and muscles instead of machines for conducting the everyday activities: for instance, whenever it is possible, walking instead of using the car, preferring the stairs instead of the lift, and so on. To fulfil the activity and adult can add 4 or 5 times a week, a physical activity of at least 20 minutes, sufficient to provoke the sweating. Those activities should represent normal habits and must be considered as a need, the same as the personal hygiene. (INRAN 2003). Recommendations from SIO (Italian Society for Obesity and ADI Italian Association of Dietetics and Clinical nutrition) are for an adult to have at least 150 minutes per week of aerobic activity (moderate intensity) or at least 75 minutes (high intensity) or equivalent combination of them. Aerobic activity must endure for at least 10 consecutive minutes. This activity can be increased to 300 and 150 minutes, weekly, respectively for moderate and high intensity, to increase beneficial for health. Moreover, exercises

for strength improvement of the main muscular districts should be done at least twice a week. Not only physical activity associated with caloric restriction diet can be successful therapy for overweight and obesity, but is also considered fundamental obesity prevention factor, so as correlated with reduction of many other clinical disorder (e.g. cardiovascular diseases, tumours etc.)

Therapeutic education: that is the "tutoring" of the patient in order to accompanying and dealing with him about the process of healing in the case of chronic diseases, to achieve the maximum therapeutic effect and the best perception of quality of life perceived by the patient. This process is fundamental in the case of treating obesity cases, since it allows to increase the knowledge of the patient himself about his disease, in order to manage and change his lifestyle and behaviour, assisted also in a psychological approach. Therapeutic education, when coupled with typical lifestyle changes (e.g. diet, physical activity) considerably increases the efficacy of that changes. This form of education can also be organized in short-medium-long period as individual or group therapy activities. Different professional figures should interact and contribute in this approach: doctors, nurses, dieticians, educators, psychiatrics and professional trainers). Several techniques are adopted in the therapeutic education, that can consistently improve the benefit in the long term for the obese/overweight lifestyle changes and settling: Therapeutic alliance, empowerment , motivation, problem solving, narrative medicine.

Alcohol consumption: The consumption of alcoholic beverages should be moderate and preferably done during or immediately before or after the meal. Relatively lower alcohol content drinks (wine, beer) should be preferred instead of spirits. Alcohol must be avoided during childhood, adolescence, pregnancy and be reduced in elderly. Alcohol must not be taken before driving or conducting any activity that requests level of attention and motor coordination. Alcoholic beverages should be avoided or reduced in the case of overweight and obesity, so as if there is genetic inheritance in the family for diabetes, hypertriglyceridemia and obesity.

Traditionally **Norwegians** have been very active in outdoors and sports. The children very often sign up in local sports clubs of different kinds that are not commercially driven, but organized through Norwegian Sports Federation where most trainers are volunteers/parents signing up to contribute to their and other kids' growth. Volunteering is widespread in Norway: in everything from sports and culture to neighbourhood and initiatives in society in general. One word that many are proud and happy to call 'typically Norwegian' is **dugnad**. And this is correct, in many ways voluntary work is an old Norwegian tradition.

The word dugnad is derived from Old Norse dugnaðr. Dugnad work is characterised by a joint voluntary effort, without payment, to help out with work that is hard to carry out alone. Voluntary workers are often rewarded with food and drink. Volunteer work also creates a sense of community – and is often social and fun. Voluntary work in Norway, however, transcends efforts made through dugnad. The operation of many culture and sports associations depends on parents, grandparents and other enthusiasts to do voluntary work.

The last decade we have seen a pop-up of many more commercially oriented sports clubs like dance studios, martial arts centres and gyms. In addition to the classic voluntary driven sports clubs,

there are now a large part of the population purchasing services both for kids and grown-ups to tailor seam the training to their needs or wishes.

The health of the Norwegian population is generally good and is improving. At the same time, improvements are now slower than in countries it is natural to compare Norway with. In 1970, Norway was placed third in an OECD survey of life expectancy for men, and first for women. Several countries passed Norway by in the mid 1980's and held their lead throughout the 1990s. In 1999 Norway was in eighth place for men and ninth place for women.

The Norwegian Directorate of Health recommends that Healthy Life Centres (HLCs) be established in primary health care to support behaviour change and reduce the risk of non-communicable diseases. The target group is persons of all ages with a high risk of contracting a disease, or who are already living with a disease and need help to change their health behaviour and manage their condition. HLCs offer individual and group-based behavioural change intervention programmes focusing mainly on the promotion of healthy dietary and physical activity habits as well as smoking cessation. At a system level, HLCs aim to function as a resource, knowledge and contact centre for behaviour change, health promotion and disease prevention in the municipalities. By targeting NCD risk in vulnerable groups, HLCs are one of the national strategies and efforts aiming to reduce social health inequalities. By the end of 2014, 57% of Norwegian municipalities provided HLC activities, and the number of established HLCs doubled during the period 2011–2014. The Norwegian Healthy Life Study is a 6-month RCT with a longitudinal follow-up (24 months after inclusion) to assess the effectiveness of behaviour change interventions in HLCs for adults, with the underlying purpose being to develop a pragmatic intervention informed by an ecological model of health. The members of the research group invited 12 municipalities to participate in the research programme. Four declined (one due to other research commitments at the HLC), leaving a sample of eight municipalities (with 6,000–270,000 inhabitants) with a total number of 630,000 inhabitants living in rural and urban areas on the west and south coast of Norway. (Norway Statistical Bureau: http://www.ssb.no/en/helse). The government set up a number of bullet points in connection with individuals and personal healthy lifestyle.

Although sports activities play an important role in children's development, recent studies show that **Romanians** do less sport, and so do their children. One of the main causes is the lack of sufficient physical education classes in schools, according to local sports publisher Preda Publishing.

Half of Romanian students are exempted from sports classes. Over 40% of Romanian children don't do any sports, and only 14% do sports in addition to the physical education classes held at school. The number of sports classes in Romanian schools is below the European Union average. Primary and secondary school students have two hours of sports per week while high school students have only one hour of physical education per week.

Romania has issued a new strategy for the organisation and development of the system of physical education and sport for the years 2012–2020. Among the main aims of the strategy are the following: to increase the education, health and socialisation of citizens through their involvement

in physical and sports activities; to improve school physical education by allocating appropriate taught time; and to modernise and improve the training of physical education teachers.

The general aim of the Protocol between the Ministry of Education, the Olympic Committee and the Youth and Sports Agency is to increase the health of the population by involving pupils and students in sports activities. The recommendation involves practising a minimum three hours of physical education and sport in schools every week. The Protocol aims to increase the number of competitive sports contests. It is also seeking to create a national registry concerned with biometric monitoring of the school population, which will reveal relevant trends from one generation to another.

Romania currently has no adopted national guidelines or recommendations on physical activity. The country promotes physical activity in line with WHO's Global recommendation for physical activity for health.

The National Audiovisual Council of Romania has collaborated with the International Advertising Association to create the "For a Healthy Lifestyle" campaign. This broadcasts advisory messages, such as "For a healthy lifestyle, avoid excess salt, sugar and fat" and "For a healthy lifestyle, exercise for at least 30 minutes every day". This content alternates throughout the day, during various programmes, including at the end of each block of advertising aimed at children.

Romania is currently experiencing a nutrition transition with increased intake of foods rich in carbohydrates, saturated fat, and cholesterol [2, 3, 7] and an increase in sedentary lifestyles . Despite these trends, there is no data on dietand activity-related behaviours associated with overweight and obesity among Romanian children. The Romanian culture celebrates a larger body ideal, and traditional diets are rich in carbohydrates (bread, potatoes) and animal products. The high rate of obesity found in Romanian boys may reflect a desire for "bigness," muscularity, strength or, masculinity

The Ministry of Health led the development of the guidelines in 2006. Universities and nutrition institutes were involved in the process. The guidelines are endorsed by the Ministry of Health. The guidelines are directed at the healthy general population.

Only 36% of young people (15 to 21 years old), 27% of adults and 22% of elderly people (65 to 84 years old) are physically active in **Portugal**, complying with current WHO recommendations on physical activity for health. In the 15 to 21 age group, the percentage of physically active male youth (49%) is substantially higher than that of females (20%). Considering physical activity in all domains, 43% of the Portuguese population over 14 years old do not meet any international criteria for physical activity, and can be classified as "sedentary". In children and adolescents less than 15 years of age, about 60% accumulate, on average, more than 60 minutes of moderate-to-vigorous physical activity per day. This value is higher in children up to 9 years of age (68%) and lower in adolescents between 10 and 14 years of age (57%). Children and adolescents under 15 spend on average about 9 hours in sedentary behaviours, and it increases substantially with age. The prevalence of children between 6 and 14 years old that, on average, engage in active play for at least 60 minutes per day is high both on weekdays (72%) and on weekend days (79%). There is, however, a significant decrease in participation in these activities with age, particularly in girls. The

national prevalence of adults (22-64 years) reporting a "regular" participation in sports and/or leisure-time physical activity is 40%; there is a high gradient by education level: 53% in individuals with higher education and 28% in those with the 1st and 2nd cycle of basic education. More than half indicate performing only 1-2 sessions of physical activity per week. More than half of the children (60%), between the ages of 3 and 14 years old, report a regular participation in structured sports, being the percentage of participation similar among girls (59%) and boys (60%)

The study, provided in **Lithuania**, found that only 15.9% of the population attends organized sport trainings, and 51.6 percent do not enjoy it. Only 16.9 outsiders indicated that it does in the sports / wellness club. During the Soviet times, Lithuanian sports politics was oriented to elite sport and it is still. The attempts to foster physical activity of the population lie on the movement "Sport for all," but the results of the movement are not effective enough, because only a small part of the population (approximately 6%) took part in it. No one governmental institution has full and clear responsibility for the results of physical activity promotion. The poor environment of physical activity results in poor possibilities to be physically active in leisure domain. Differently, the huge expansion of the private sport, health, and beauty industries fosters the adoration of the body and overemphasizes the meaning of body image in the society. Physical activity is represented as the measure to achieve ideal body image or good health, but not as the measure of the overall culture of the human or society.

Private capital investment is growing rapidly in Lithuania in fitness market. Income from wellness centres, baths and saunas has increasing every year. Also, the number of sports centres has also increased significantly. This should be a very joyful occurrence the impression that the physical activity conditions of the residents of Lithuania is improving and more and more people can grow their own physical activity. Unfortunately, most private fitness centres services are very expensive. This situation increases social exclusion and differences in separate regions of the country.

There are some tools for obesity prevention and healthy lifestyle promotion in Lithuania: organic glass stands, artificial food kits, tools for scientific experiments. These tools can be used in all lessons, they can make a healthy food lesson more realistic and interesting. Tools you can find: http://www.mokslotechnologijos.lt/prevencines-priemones/sveika-mityba.

Every person can calculate calories, monitor physical activity and burning of calories by applications on mobile devices. Examples: Nike Training Club, Endomondo Sports Tracker, I care, Eat This, Not That!, Calorie Counter MyNetDiary, Daytum, JEFIT, DailyBurn, Fooducate Nutrition scanner, GymGoal and others.

4. Family experience:

4.1. Family life style, HL statistics, harmful habits

- *Families life style, understanding of Healthy Lifestyle demand (statistical, researches data), harmful habits*

Under **Lithuanian** statistics data, in 2015, based on provisional data, absolute (100 per cent) alcohol consumption per resident aged 15 and older amounted to 14. Alcohol consumption indicators were produced following an updated methodology, taking into account the estimates of alcohol purchased by tourists in Lithuania and residents of Lithuania abroad. In 2015, country's retail trade and catering enterprises sold 3.6 million dekalitres of spirits (vodka, whisky, brandy and the like), which is by 70 thousand dekalitres (1.9 per cent) less than in 2014, and 5.8 million dekalitres of wine and fermented beverages, which is by 929 thousand dekalitres (13.8 per cent) less than in 2014. Just as every year, the bulk of sales fell within beer – 26.8 million dekalitres, or by 1 million dekalitres (3.6 per cent) less than in 2014. Notably, the bulk of turnover of small rural shops falls within sales of alcoholic beverages. In 2015, in small (1–3 employees) rural shops, it reached nearly 35 per cent, in some rural shops – as much as 67 per cent. In 2015, against 2014, retail prices of alcoholic beverages grew by 0.9 per cent, with the largest increase observed in prices of vermouth – by 11, fruit and berry wine – 8, liqueur – 7.7, vodka produced in Lithuania – 3.3 per cent, the largest decrease – in prices of beer (5.2 per cent). The growth in prices of alcoholic beverages was conditioned by a higher excise duty applied since 1 March 2015. In 2015, 1.15 million dekalitres of spirits, expressed in terms of absolute (100 per cent) alcohol, were produced in Lithuania, which is by 2.1 per cent more than in 2014. In 2015, 64 packs of cigarettes were purchased in retail trade and catering enterprises per resident aged 15 and older (by 5 packs more than in 2014). Alcohol consumption and smoking habits and consequences: morbidity and mortality from alcohol- and smoking-related diseases. In 2014, in the Health Interview Survey, 75 per cent of residents aged 15 and older indicated that, within 12 months prior to the survey, they consumed alcoholic beverages (83 per cent of men and 69 per cent of women). During the last nine years, the percentage of the population consuming alcohol remained almost unchanged: in 2005, 76 per cent of the population consumed alcohol. In 2014, the largest proportion of the population – 24 per cent (16 per cent of men and 31 per cent of women) – indicated that they consumed alcohol less than once a month, 18 per cent (17 per cent of men and 19 per cent of women) – once a month, 19 per cent (26 per cent of men and 14 per cent of women) – 2–3 days a month, 14 per cent (24 per cent of men and 5 per cent of women) – on a weekly basis. 72 per cent of men who consumed alcohol within 12 months prior to the survey indicated that there were times when, on a single occasion, they drank a hazardous amount of alcohol, corresponding to 6 and more standard drinks; among women, this percentage stood at 39 per cent.

In the said survey, 34 per cent of men (in 2005, 42 per cent) and 9 per cent of women (in 2005, 10 per cent) aged 15 and older indicated that they smoke. Almost two-thirds (62 per cent) of men who are daily smokers smoked, on average, 11–20 cigarettes a day; among women, this figure stood at 23 per cent. 33 per cent of men and 76 per cent of women smoked up to half a pack of cigarettes a day, 5 per cent of men and 1 per cent of women – more than a pack.

According to the data of the Police Department under the Ministry of the Interior, in 2015, each seventh road traffic accident was caused by an intoxicated person: 439 road traffic accidents

through the fault of intoxicated persons were registered, with 99 persons killed and 834 injured. In 2015, 15 persons were killed and 345 – injured in road traffic accidents caused by intoxicated drivers. In 2015, against 2014, the number of road traffic accidents caused by intoxicated persons decreased by 18.1, of those caused by intoxicated drivers – by 28 per cent.

According to the data of the Child Rights Protection and Adoption Service under the Ministry of Social Security and Labour, at the end of 2015, 4.3 thousand drinking families at social risk raising children were on the record of municipal child rights protection services (branches) (by 0.3 thousand, or 6.5 per cent, less than in 2014), with 8.2 thousand children raised in them. Over the year, the number of children raised in such families decreased by 0.6 thousand (6.8 per cent).

In **Italy** the most recent surveys reported that there is an increase of risk to have children overweight and obese when at least one of the parents is overweight. This is a confirmation of the important role of the parental model in the development of incorrect lifestyles by the children and adolescents. The family is the first environment in which healthy lifestyles should be conducted, and misbehaviour corrected consequently. Almost 20% of Italian families all familiars are overweight.

Family environment: Family and peer contexts play an important role particularly in in early and mild adolescence, and both contexts are strongly connected with young people's well-being. Traditional family structures are more prevalent in Italy than in other countries. Nevertheless 10% of our students live in a single parent or reconstructed family. 75% of the sample is constituted of only children or children having only one brother (or sister), and 20% have another relative (mainly grandparents) living in the household, besides their parents. Interesting to note is that it is more common in southern Italy to live in an extended family with one or more relatives in the same household. With regard to communication within the family, our sample shows that talking with the mother is easier than with the father. Girls, especially if they come from the south, have more difficulties in talking with the father. The quality of communication decreases with age. The opposite happens with friends, who are considered the main source of support, especially with increasing age.

Nutrition: the family environment has a strong influence. The meal distribution (breakfast, snacks, lunch and dinner) is strongly influenced by family environment so as the average caloric intake and the distribution of calories sources. The adults represent an important model for child and adolescents, so the increase of consumption of fruit, vegetables and legumes and decrease of sugar and fats (one of the key intervention to prevent overweight and obesity), must first be adopted in the family context.

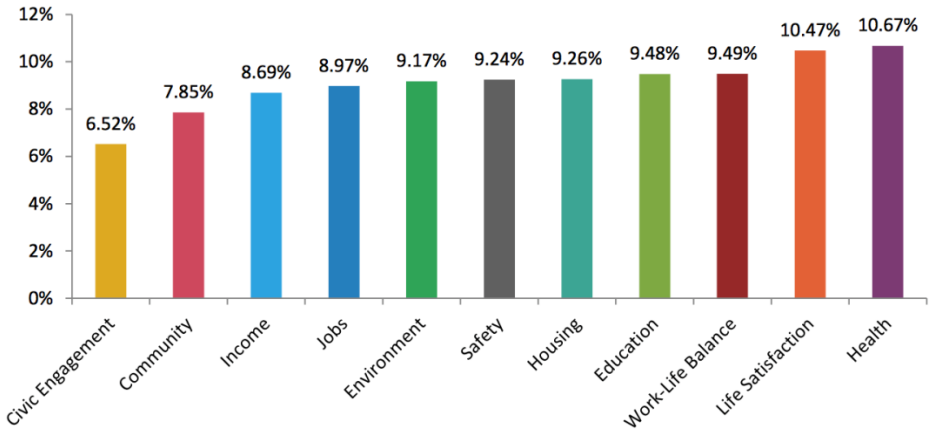
Sedentary life: Family environment gives a primary imprinting of negative lifestyles. For instance the overuse of TV, PC, tablet and video gaming in the family context is directly affecting in a negative way the behaviour and habits of the youngest generations, promoting sedentary lifestyles and reduction of weekly time dedicated to outdoor activities. The control of weekly time activities as a familiar practice is strongly recommended to equally distribute indoor and outdoor activities for parents and children/adolescents. Dedicating the correct time for walking, leisure and sport in the family context could substantially contribute to the decrement of sedentary activities

that are strongly correlated with overweight and obesity. Suggested practices are: 1.Increased use of bike instead of car for the family mobility to school and work; 2. Dedication of at least 2 weekly moments scheduled for familiar activities (sport practice, long walk, gardening and cleaning); 3. Planning family holidays period also for outdoor activities, reducing the number of meals in restaurant, gastronomies etc. 4. Regularizing the work and rest activities (sleeping hours) in the family context, since this has direct influence on incorrect nutritional behaviour.

Correct behaviour: the family context plays a key role in the development of correct HL practices none related to nutrition and overweight but contributing to well-being and prevention of diseases and accidents. For example the use of driving seatbelt in the car, the correct sun tanning period are in Italy among the most influent correct practices to prevent car accidents and skin melanoma, respectively. Only by starting with a familiar context that adopts virtuous behaviour the transfer of healthy lifestyles from the parents to the children can be achieved.

Harmful habits: (alcohol, drugs). The moderation with the use of alcoholic beverages, possible avoiding of the use of tobacco and strict avoidance of any drugs should be the basis of the best practices for family correct lifestyle.

Norway*:* The following country findings reflect the ratings voluntarily shared with the OECD by 1,680 website visitors in Norway. Findings are only indicative and are not representative of the population at large. For Norwegian users of the Better Life Index, health, life satisfaction and work-life balance are the three most important topics. (*Statistics from Norway Statistical Bureau: http://www.ssb.no/en/helse)*



[1] User information for Norway is based on shared indexes submitted between May 2011 and September 2017.

3 graph. Better Life Index

As many studies have shown before, parents are highly influential factors for their children in different areas, including food habits. Research has also shown that just giving advises or obliging a child to accept healthy food, without eating it themselves, is, for the parents, a dead end in nutrition education. Coercive methods give the worst results. For several reasons (living in the same

household, mothers usually being the ones preparing meals for the family, mothers being in charge with the food supply), the strongest correlation can be found between mother `s eating habits and the ones of the child. This statement is especially true in a traditional society like Romania, an East European country were child care and food preparation are still women` s tasks in the household. In the same time, because good nutrition is a ultimately a problem of due material resources, it`s worth to mention that women generally make large contributions to household cash. Working women with children often have a stressed, overloaded life, combining work at home and professional involvement, so what they eat is essential for their own health and performance so nutrition of mother and child in **Romanian** families are correlated, whatever child `s age. Parent implication in terms of food excess is essential, overweight mothers having the tendency to provide children with larger portions and higher fat content Children are likely to be inactive in the evening after dinner in front of the TV or computer, and thus the excess of calories is not consumed. In all cases an unbalanced diet was highlighted concerning the main nutrients, and in all cases children consumed hyper caloric snacks (sweets, soft drinks) between meals. The increasing frequency of artificial nutrition after birth (excess of carbohydrates and high osmotic charge of formula milk), early introduction of solid foods (early diversification), increased use of commercial food in diversified diet (most of them unbalanced, with high carbohydrate intake and low protein intake), led to an excessive weight increase of infants and excessive storage of fat. It is known that parental factors, such as low education, offering sweets as a reward, lack of time, insufficient information regarding a healthy diet, plays an important role in the diet of young children important role is played by the involvement of the family, because attitudes, perceptions and behaviour of parents can influence the development of children's body weight The role of the mother or care person is regarded as central, with a concrete reference to their way of anticipating and satisfying the child's feeding needs, either by balanced attitudes, or misbalanced ones of neglect or exigency, overstimulation or permissiveness. In the presence of these attitudinal types, the child's capacity to discern the sensations from the inner tension, from hunger, lust, or other frustration, boredom, loneliness, overload, remains weak and thereby eating acquires a non-differentiated compensatory function

Portuguese Food Balance Sheet 2012-2016 compared to international recommendations.

The energy contribution of fats calculated by Portuguese Food Balance was 35.3% in 2016 (34.9% in 2012), which is higher than the maximum limit recommended for consumption (30%). The contribution of carbohydrates was 47.0% in the same year (47.8% in 2012), which is below the recommended range (55-75%). The proteins presented an energy contribution of 12.8% in 2016 (12.7% in 2012), within the recommended range (10-15%).

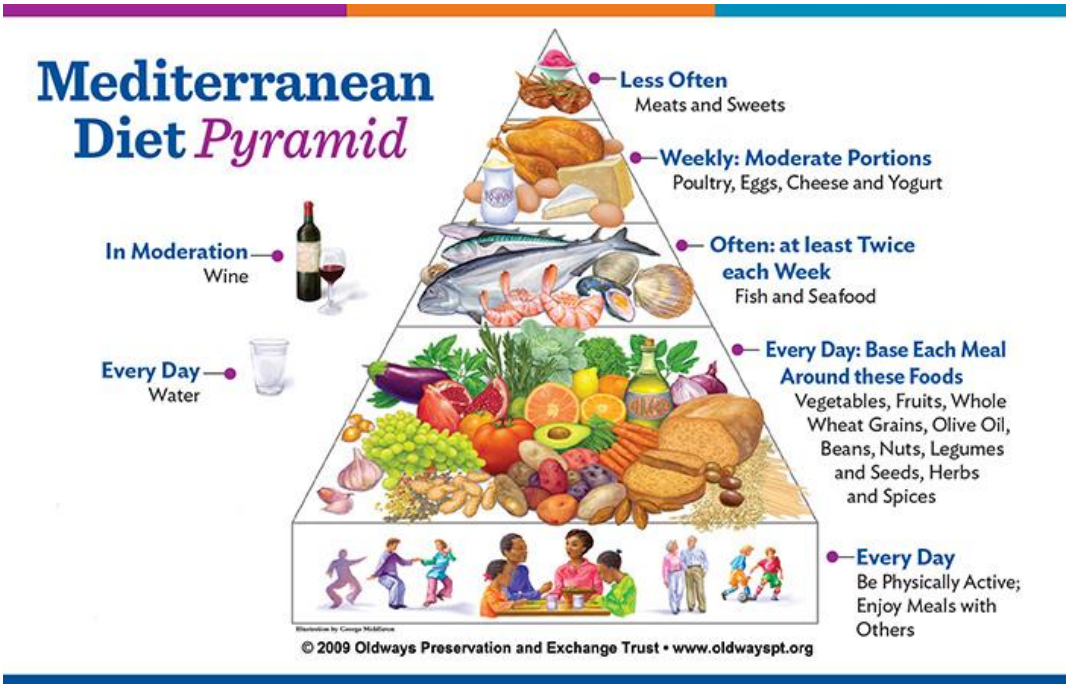
The Mediterranean Diet has been distinguished since 2013 as the immaterial heritage of humanity, a distinction that Portugal shares with Spain, Morocco, Italy, Greece, Cyprus and Croatia.

-The definition of the Mediterranean diet was based on the dietary habits of Greece and Italy in the 1950s and 60s of the 20th century, but this food pattern extends to a vast territory on the Mediterranean fringe, which includes countries in southern Europe, where Portugal is integrated,

from West Asia and North Africa.

-More than a healthy dietary pattern, the Mediterranean diet translates a lifestyle, using the simplicity and variety of foods that favour fresh, local and seasonal products.

-Extra-virgin olive oil, red wine in moderation and fish are the products of choice, to which are added cereal grains, fresh vegetables, nuts and lean dairy products. Shared meals, celebrations and traditions and moderate exercise, favoured by mild climate, complete a healthy lifestyle model

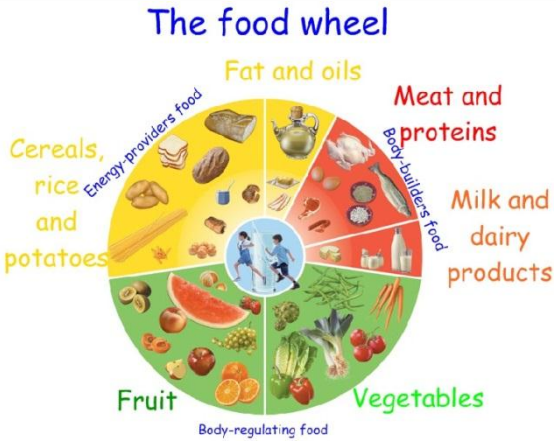


4 graph. Index of adherence to the Mediterranean Diet (Portugal 1990- 2016)
Reference: https://www.unitypoint.org/madison/article.aspx?id=d3b84dd5-01e2-4a92-9508-bdeba38e5277

- Between 2012 and 2014, the index of adherence to the Mediterranean Diet decreased 4.0%. From 2014 to 2016, the index **increased** by 2.8%, revealing a higher approach to this diet pattern.

In comparison of the Portuguese Food Balance Sheet 2012-2016 with the Food Wheel (5 graph).

- In the five-year period 2012-2016, the Portuguese Food Balance Sheet reported an average daily caloric intake available for consumption per inhabitant of 3 834 kcal, lower than the 3 938 kcal registered in the 2008-2011 period, but significantly higher than the recommended value (2 000 kcal/inhabit/day).
- The food groups that presented the most significant deviations from the Food Wheel, based on the year 2016, were "Meat, fish and eggs" with an availability of 11.5 pp above the recommended consumption (+11.0 pp in 2012), "Fruits" and "Horticultural", with a deficit of 7.3 pp and 6.8 pp respectively (-8.2 percent point and -8.0 pp in 2012).
- "Milk and dairy products" showed a deviation from the Food Wheel of minus 0.7 pp when in 2012 it had a positive deviation of 1.6 pp.
- "Cereals, roots and tubers" and "Oils and fats" held in 2016 availability above the recommended dietary pattern (+2.9 pp and +3.7 pp, respectively), keeping the deficit of "Dried pulses" availability (-3.4 pp).



5 graph. The Food Wheel

Reference: http://evocorner.blogspot.lt/2013/01/3rd-primary-food-wheel.html

4.2. Possibilities for families: programs, projects, trainings, doctors' consultations

Where families can get help for the whole family: programs, projects, non-formal training courses, doctors' consultations. What kind of help?

Primary Care in Lithuania

Lithuania is one of those previous Semashko system countries which until the 1990th had a centralised, highly regulated and hospital oriented health care system. Since restitution of independence, as most of East European countries, Lithuania has started a reform aiming to introduce stronger, based on family medicine, primary health care. Postgraduate training of Family Physicians through 3 years residency has started in 1992. District physicians (internists and paediatricians), whose role was the most close to that of PHC physician, were retrained to family physicians.

At the end of 2009 primary health care was provided by 1951 family doctors (68 % out of all primary health care physicians), 479 district internists (17%) and 447 (15%) district paediatricians. To guarantee wider range of medical services district internists and paediatricians are working in teams with 342 gynaecologists and 218 surgeons.

Various organizational forms of PHC institutions are present in Lithuania:

- Ambulatories;
- Medical stations (aid posts);
- Primary health care centres;
- Family doctor (general practitioner) offices;
- Policlinics (PHC and specialists' care).

Currently the PHC system is financed from a compulsory health insurance fund and depends on the number of registered patients to PHC institution, patient's age, performance indicators and provision of preventive health care programs. The predominant payment model in Lithuania is capitation fee (seven age groups) which account for about 80 to 85% of all payment models. The remaining part of payment models is composed of incentive payments (fee for service) and bonus

payments for good results. Fee for service payment is for screening of prostate and cervical cancer, care of pregnant women, preventive check-up of children, nursing at home of chronically ill patients, etc. There are bonus payments for results: diagnostics of early stages of cancer (since 2003) and since 2008 more bonuses for quality of care of chronically ill patients. The main preventive programs performed in primary care are: cervical cancer preventive program (women 25 till 60 years), breast cancer preventive program (women 50 till 69 years), prostate cancer early diagnostics program (men 50-75 years old), occult blood testing for intestine cancer (men and women 50-74 years), and cardiovascular preventive program (for men 40-55 years, women 50-65 years). However, most of family physicians in Lithuania are poorly involved and not paid for out-of-hours primary care. The family physician also has a gatekeeper's role which was introduced in 1997 and the accessibility to specialists has been limited. Simultaneously the workload of family physicians increased and has now become one of the most debated issues. Also there are unequal quality and comprehensiveness of services, comparing different PHC providers. Despite the gatekeeping function, differences in referral rates within different health care units are up to five times higher which cannot be explained by the morbidity level of the population.

Italian Society of Paediatrics offer special materials for the families and obesity prevention (https://docs.sip.it/decalogo2017.pdf) so as different project for updating medicals and nurses skills in the frame of family obesity prevention (http://fad2014.biomedia.net/corso/index/corso/1705)

Italian Society of Paediatrics and other important Italian Associations like ADI and SIO, organized specific courses for Family-based Therapeutic Education for obesity (http://www.medicinadelladolescenza.com/wordpress/wp-content/uploads/2015/01/Corso-RITA-TANAS.pdf)

Italian Association of dietitians and clinical nutrition (ADI) Organizes every year the "Obesity day" and has a dedicated website for information and dissemination at personal and family level.

Italian health system relies on Local Health agencies (ASL - Aziende Sanitarie Locali) and Family doctors and "Consultori Familiari" (family consulting health centre) as the main prevention and communication system related to the family environment. All these institutions are socio-sanitary structures developed at local level that offers multidisciplinary service for the health and well-being at family level. Many projects about obesity prevention and family therapy have been developed. In the Italian National guidelines for the nutritional rehabilitation from the eating disorders the familiar support of specialists (nurse, dietician, psychologist etc.) is considered of primary importance for the effectiveness of the treatment.

Norway: The normal channel to get help for families is through their doctor. There are very few independent speciality services for this. For students it is common to get advice and counselling from the school nurse. Apart from this there are no nationwide programs, but several local commercial initiatives that families or individuals can purchase services from. The social service also has family therapeutics who normally can go in as counsellors in families that struggle with everything from behaviour to health, but this is mostly for those with very wide number of family problems- not only health.

The trained specialists in nutrition and metabolic diseases in **Romania** are generally focused on

the treatment of diabetes "Due to the lack of time and the tight health-insurance [rules], only few people with obesity can be regularly seen and monitored. Otherwise, obesity is 'treated' in private practice, either by physicians or, in the worst-case scenario, by 'dieticians'." (Professor Copaescu).

One of the main obstacles to confronting obesity is the lack of measures and guidelines to help GPs identifying it. This lack of understanding is compounded by the severe social stigma attached to obesity, which leaves many patients feeling isolated in their personal and professional lives. With the public viewing obesity as a condition resulting from a "lack of control", the argument for investing in treatment is less compelling, he adds. "The non-obese population considers that social efforts to control the problem are less important than other priorities, such as fighting cancer and other diseases. We don't have the wealthiest health system in the world." (Professor Copaescu)

4.3. Family education models.

Family education and behaviour models - how family members helps to each other

Lithuania. From ancient times, when people were starving, is considered what thick child is a healthy child. Usually not one but all family member have obesity problem because of wrong life style and nutrition. In Lithuania is applied the German psychotherapist Bertha Hellinger's therapy, also known as family constellation. It relies on the theory that many of us troubling troubles lie in family history.

Many studies in **Italy** were conducted about the family models of education and their impact on the development of children behaviour and lifestyle. Family educational models are typically categorized as follows: Hyper protective, Democratic, Scarifying and Intermittent (no fixed rule of restriction-permission), influential, delegating (to the grandparents), authoritative. Not necessary each one of them can be considered automatically related with development of unhealthy lifestyles, but in any case of unbalanced adoption of any of these models, the risk of incorrect Lifestyles, tends to increase. Since modern families are often characterized often by a stressful lifestyle, career issues, mono parental families, etc. the possibility of increase of such a risks is more and more consistent. Thus, not only individual and family strategies for HL development and obesity prevention can be considered sufficient.

Norway: The number of private households in Norway amounted to 2 349 500 as of 1 January 2014. An average of 2.15 persons lived in each household. The family models we had 30 years ago is no longer present, now often with conflict between divorced parents. Such conflicts often lead to a more complicated health situation for young people, indirectly contributing to worsening the situation, especially when it comes to psychological health. Among the country's 3.9 million persons aged 18 years and above, 60 per cent are living as part of a couple. At the turn of the year, 1.1 million children in Norway below the age of 18 were living with their parents. Seventy-five per cent of these children lived with both parents, while 25 per cent were living with one parent only. The proportion that lives with both parents decreases with age. Among the 1 year-olds, 88 per cent live with both parents. Among the 17 year-olds, this proportion is 61 per cent. Today the family support is not what it was like 30 years ago, and this is a topic that has not been researched in Norway. Families mostly help children with housing when they start to move out of the family

residence. In addition to that the grandparents help a lot with grandchildren, but the family unity is not like you see for example in the Mediterranean areas. Family ties are relatively loose, perhaps since we grow up our children to be very independent at an early age. (Norway Statistical Bureau: *http://www.ssb.no accessed 07.12.2017)*

It is well established that mothers' education has positive effects on child nutrition in developing countries. Less explored is the effect exerted by the education of other individuals--mothers' friends, neighbours and family. Child nutrition is positively and independently associated with mothers', fathers' and grandmothers' education.

An important role is played by the involvement of the family, because attitudes, perceptions and behaviour of parents can influence the development of children's body weight. The role of the mother or care person is regarded as central, with a concrete reference to their way of anticipating and satisfying the child's feeding needs, either by balanced attitudes, or misbalanced ones of neglect or exigency, overstimulation or permissiveness. In the presence of these attitudinal types, the child's capacity to discern the sensations from the inner tension, from hunger, lust, or other frustration, boredom, loneliness, overload, remains weak and thereby eating acquires a non-differentiated compensatory function.

As far as children are concerned, the major responsibility for obesity lies with their parents and families as well as with secondary socialization agents such as caretakers and teachers; all mentioned act as gatekeepers. Parents are working long hours, spend less and less time with their children, try to involve them in as many activities as possible and therefore nutritional aspects often left aside. The child feels distant or alienated in front of his parent and the parents give them whatever they want to gain the child back. "Parents say they feel in conflict. They want to say no, but they don't want to have their child upset with them".

Children today experience an increased spending autonomy. Children are free to buy from the school's shop, for example, whatever they want. Children in the third and fourth grade, who already know to calculate, receive money from parents to buy themselves sweets, sodas, chips, candy and so on. Even though, shop school are not supposed to sell unhealthy foods and beverages, such errors occur, so 55, 55% prepare their school food at home and 44,44% buy something from the schools shop. However, children in the first grade choose to prepare their own school meals at home in proportion of 73%, the rest of 27% buy chips, soda and candy. The preferred aquisitions are chips, gum, popcorn with cheese, candy.

5. Organization / institution experience:

5.1. Experience in schools: measures, methods, target group, what kind of specialists works

Experience in schools: measures, methods, target group (pupils or parents), what kind of specialists works with children's on HL

5 table

Methods of how to teach children about healthy lifestyle:

Primary (I-II)	The healthy man. What helps to be healthy? The diversity of food - health condition (importance of vitamins, dietary iodine etc.) The requirements of a healthy diet. The benefits of healthy food. The fast food.
Primary (III-IV)	The definition of human health and it strengthen requirements. The influence of plant and animal foods. The principles of a healthy diet. The food additives. Food Pyramid. The reproductive health. The composition of food.
Inferior Secondary (V-VI)	The influence of environment on health. Food Pyramid. Label - food card Consumer rights Healthy Food Guide
Inferior Secondary (VII-VIII)	Organoleptic qualities of food: food share in the daily ration Iodized salt in the diet: effects of iodine deficiency Onset obesity by eating unhealthy Value for money in food choices Body image and eating behaviour The metabolism influence on health.
Superior Secondary (IX-X)	Factors that disrupts metabolism (carbohydrate, protein, fat, mineral). Food additives and their influence on health Food Chain and risks of each link (fertilizers, pesticides, hormones
Superior Secondary (XI-XII)	The impact of food on health. Diet and cardiovascular disease. Deficiencies food (diets, bulimia, anorexia). Balance calorie intake with physical and intellectual activity. Diet under special conditions. RDA and consumption security.

Reference: http://eduforhealth.ssai.valahia.ro/pdf/Curricula_Analysis_lt.pdf

All strategies of teaching and learning are interactive ones:

For preschool level: role play, observation, experiential methods, cookery, sport games (mini football, relay), ecological walking-tour, healthy food testing.

For primary school level: role play, experiential methods, project method (for learning and for assessment), practical tests, poster exhibition, fruits and vegetables exhibition, cookery, debates, excursions, wellness week.

For secondary school level: brainstorming, problem solving, role play, case study,

conversation, I know / I want to know / I have learned, debates, cube method, mosaic method; the invitation professionals(dietitians, health specialists); for assessment are considered best practice: practical tests, experimental works, self-assessment, projects, portfolios, essays.

Specialists who works in schools:

Public health care specialists or community nurses that completed the special health education programme for schools work in Lithuanian schools. Health care professionals working together with teachers, parents and specialists of psychological and social assistance can help a young individual to form a positive view to his or her health as the most precious value, to encourage children and adolescents to preserve and improve their health, to attain skills of better living and to realize their role in the society.

Norway: In schools, there are only two types of professionals who work on HL. Every school has a nurse responsible for campaigns, check-ups and guidance (especially primary school). In secondary/tertiary school specialists do not work there, and are more called in on a need to have basis on the referral from guidance counsellors or teachers.

In addition to the nurses the teachers have an important role in teaching about HL in social sciences and natural sciences field. In addition to this the physical education teacher has a responsibility to motivate and teach about healthy lifestyle and active lifestyle and the effect on health. There are HL learning objectives in the national curriculum for all ages, not many, but still a few important ones.

HL teaching activities **in Italy** refer to Ajzen theory of "reasoned behaviour", therefore, personal attitude and subjective norms are the ground of these actions in Italian system. Personal attitude refers to the interior motivation. Subjective norms refer to the perception that an individual has about others' expectations. As a consequence, HL activities look at synergies between family and school (MIUR, 2010). A recent reform of Italian schooling system contains guidelines about: health education; affective education; citizenship; food; environment awareness. Italian government at this regard supposes that these elements are fundamental for a satisfactory inclusion in social life and in the citizenship path. Such a measure employs teacher of all subjects of mandatory schools, hence the target group is pupils from 6 to 14 years old. Such a type of education is intended to be blended with other subjects and in most of the cases it concern special projects involving students (https://archivio.pubblica.istruzione.it/essere_benessere/allegati/linee_guida.pdf). One example is the *pedibus* project. It is an initiative that stimulates pupils to go to school by foot. Activities are firstly oriented at security in streets throughout the collaboration among school, teachers and parents (http://www.piedibus.it). Another example is the project, fruit in school (http://www.fruttanellescuole.gov.it). It is a National action of fruit delivery to schools that includes specific activities to better known fruits, to explore the importance of fruit into personal nutrition and everyday life.

In **Romania**, teachers and school personnel have a valuable contribution to make in the prevention of eating disorders and child obesity but school personnel have been largely under-utilized as such potential change agents. The school nurse and physical education teachers are in critical roles of assisting both parents and children when it comes to understanding the devastating

effects of being overweight and obese and in helping children identify positive health behaviours that may help reverse this condition. Health professionals play a key role in managing obesity which is a global public health priority. for example, health professionals should use every opportunity to help patients with changes to their lifestyles (dietary advice and exercise) Public healthcare does not cover intensive weight-loss intervention, but there is a growing number of private practices which treat these problems for those who can afford it and are willing to pay out of pocket. The trained specialists in nutrition and metabolic diseases in Romania are generally focused on the treatment of diabetes "Due to the lack of time and the tight health-insurance [rules], only few people with obesity can be regularly seen and monitored. Otherwise, obesity is 'treated' in private practice, either by physicians or, in the worst-case scenario, by 'dieticians'." (Professor Copaescu)

Some good practice examples:

1. The national education for nutrition program **„I eat healthy at school",** implemented by Sodexo Romania, in partnership with volunteers of the Medicine and Pharmacy University „Carol Davila" from Bucharest, was extended in the rural area. Within the education for nutrition program „I eat healthy at school", addressed to students in the primary school (classes 0-IV), the children learn how to eat healthy during the school breaks. During the workshops, together with the Medicine students they create the menu of a healthy snack at school, learn what nutrition rules they should follow to be in good health and find answers to the most important questions about the impact of nutrition on health issues according to various ages.

2. **„The Healthy Traditions for Healthy Children''** is a community-based program that aims childhood obesity prevention in North-eastern Romania. To reduce health inequity in children from poor families, an original nutrition education intervention was developed.

3. **''The Granny's Health Bag''** educational kit promotes healthy habits, using original messages based on local culture. The original symbol ''Granny's Health Bag'' means a traditional bag in which children will put everything is healthy for them - traditional healthy foods, clean water and sport items. The program message is very powerful by using interactive tool of ''Granny's Health Bag'' as well as stories told by the mother goat to her kids.

4. **Milk and Croissant national programme** is a part of the European School Milk Scheme, aims at providing healthy food choice to all Romanian pre-school to secondary school students (ages 5-6 to 14-15) by offering them in each school day, at lunch time, a small bottle of milk/yoghurt and a croissant/bagel.

5. **The School Fruit Scheme -** This programme aims to increase the consumption of fruit and vegetables at school to encourage healthier eating habits, in the context of declining consumption of fresh fruit and vegetables and increasing incidence of child obesity.

6. **Portuguese School Milk Program (**http://www.dge.mec.pt/sites/default/files/AccaoSocialEscolar/reg_ce_657_2008.pdf**)**

Daily and free distribution of 20cl of school milk to children attending pre-school education and students in the 1st cycle of basic education, throughout the school year. In order to complement nutritional needs of pre-school children and students in the first cycle of public school education, other healthy foods may be associated with school milk.

7. **Portuguese School Fruit Project (**http://www.plataformacontraaobesidade.dgs.pt/PresentationLayer/conteudo.aspx?menuid=469&exmenuid=436&SelMenuId=469**)**

The Portuguese Government adhered to the School Fruit Scheme through a Legislative Rule in the year 2009, which still today is part of the basic Portuguese schools routine. The School Fruit Scheme consists of the free distribution of fruit and vegetables to all students in the 1st cycle of basic education who attend public schools, and to carry out activities in the school environment aimed at developing healthy eating skills and knowledge origin of agricultural products.

5.2. Universities – conducted researches on HL, how HL issues are engaged in the study process

Universities – collect researches data, projects info, how HL issues are engaged in the study process, how they are working with students

Analysis of the health education situation at **Lithuanian** higher education institutions has shown that about one quarter of the students' lecture schedules contain subjects, in which they acquire knowledge about health. Compulsory physical education classes are in more than one third of the students' lecture schedules. Through physical education, students avalanche their physical characteristics. Students are promoted to participate in various events that promotes healthy life style e.g. volleyball match for woman's day celebration, lecture about yoga and stress management, event for World's Health Day etc.

The frequency of different components of heathy life component varies greatly in different study programs. Education sciences students level of HL knowledge is especially low. It's very bad, because it raises doubts their abilities to cultivate pay health of men after they become educators.

Much research effort **in Italy** is dedicated to healthy lifestyle, its determinants and consequences. In Italy, healthy lifestyle is often associated to Mediterranean diet. As a consequence, a good part of research dedicated to HL talks about the effects of Mediterranean diet, as shown by the Italian scientific production in the last years (https://scholar.google.it/scholar?as_vis=1&q=healthy+lifestyle&hl=it&lr=lang_it&as_sdt=0,5&as_ylo=2000&as_yhi=2017) and the impact of eating patterns in general on overweight conditions and obesity and on cardiovascular pathological profile. Another research section about HL issues, concern social conduct and habits, as well as psychological elements and perception of obesity and unhealthy lifestyle. This last body of research explores different dimension of awareness of HL and measures how important is the psychological attitude for HL conduct. In university HL issues are engaged with three different activities: lectures, informative seminars, participation to dedicated research projects through direct experiences in MSc or PhD thesis or as individuals for data collection in social experiments. Lectures and engagement in research activities in subjects concerning Mediterranean diet, food quality and nutrition, sport science of course are limited to food, agriculture, medicine and sport faculties. However, a broader engagement is guaranteed in the case of seminars because of the interconnection with other cultural aspects.

There are no published studies regarding the prevalence of overweight and obesity in Romanian medical students. In 2013, V. Mocanu conducted a research on overweight, obesity and dieting attitudes among college students in Romania.

Eating-related behaviours were measured using the EAT- 26 questionnaire. Study of food intake and physical activity was conducted using a questionnaire that included anthropometric

measures, food frequency and the level of physical activity. The result of the study was that about 20% of Romanian college students were overweight or obese (BMI ≥ 25). Rates of overweight or obesity among male students were higher than those seen among female students. In females, underweight was observed more frequently (21%) than overweight (10%) or obesity (4%). In males, overweight and/or obesity were more frequently observed than underweight (18%, 14% and 9%, respectively).

The results demonstrated that disturbed eating attitudes and unhealthy dieting are common among Romanian college students, especially among females. Understanding weight attitudes and dieting tendencies may help the counsellors and nutritionists working with students on weight management issues to educate college.

5.3. Main HL emphasis in teaching future teachers and nurses

Main HL emphasis in teaching teachers and nurses, Which factors are not considered enough attention?

ITALY: Main elements of HL are: food and wellbeing; physical activity and wellbeing. The first area of emphasis focusses on the distinction of the different nutritional elements, in order to increase the awareness of the energy each element of food contains and how such energy could affect our body. There is much attention on self-awareness actions, such as weight control, self-selection of foods and impact of salt, alcohol and sugars on people health in medium-long term. The second area of emphasis is more concentrated on the relationship with our own body, hence on the fundamental role of self-awareness through physical exercises from the first year of school. The care of our own body, together with an increased awareness towards diet and physical activity is a tool to generate positive attitude towards an HL (MIUR, 2010).

Not enough attention is dedicated to the subjective norms, the family behaviour and the synergic role of family friends and reference people (even famous actors or cartoon/videogames idols), as declared in the guidelines.

In **Norway** national teacher education program, the HL focus is found within one particular subject that is taught: **"Food and health".** This is a 2 module 60 study points (30+30) programme which is meant to educate teachers for teaching this particular subject in primary school.

In addition the topic is also a small part of Physical education and social sciences at the teacher's college. There are not many materials available from school authorities, but some videos and materials can be found online from national learning resource communities. You tube is a frequent place for visit by teachers. According to previous research undertaken in connection with a previous LLP project on nutrition and health (MEAL project) we found by interviewing 30 nurses and 30 teacher students that they were satisfied with the focus and amount of HL related lessons in their university education. (mealproject.eu, accessed 11.12.17)

The feedback is also very clear when it comes to what element that does not have enough focus. That element is psychological health, where every single respondent answered not satisfied with the emphasis in connection with healthy lifestyle. Psychological health issues are the biggest

problem that nurses and teachers face that they are not trained to cope with.

In **Romania**, teachers and school personnel have a valuable contribution to make in the prevention of eating disorders and child obesity but school personnel have been largely under-utilized as such potential change agents.

In fact, failure to investigate the nutrition, dieting, and weight control knowledge, values, attitudes, and behaviours of teachers and other school professionals involved in the treatment or prevention of obesity and eating disorders in schools may be one factor that could explain the modest success of some of these prevention programs. Furthermore their professional role and experience may not necessarily protect them against having significant levels of anti-fat bias.

The school nurse and physical education teachers are the school personnel most likely to be involved in efforts to curtail the childhood overweight and obesity epidemic at the school level. These individuals are in critical roles of assisting both parents and children when it comes to understanding the devastating effects of being overweight and obese and in helping children identify positive health behaviours that may help reverse this condition. Nursing professionals spend more time with the patients than any other professional; therefore patients take the nurses as a reference or a model of healthy habits. Nurses are encouraged to develop skills, such as advocacy, collaborative leadership, and social marketing skills, that will contribute to the prevention of childhood obesity

Teachers and schools can provide powerful leadership to help reverse the worldwide epidemic of childhood obesity while they endeavour to improve children's academic success. A teacher-delivered cognitive–behavioural skills-building intervention can positively affect a variety of important outcomes for high school adolescents at risk for a multitude of problems. Routine integration of COPE into health education curricula by teachers in real-world high school settings has the potential to improve health, psychosocial, and academic outcomes in high-risk populations of teens. Schools can help students adopt and maintain healthy eating and physical activity behaviours.

5.4. Workplace - experience, tools, methods, ergonomic environment

Workplace - experience, tools, methods, requirements for ergonomic environment

Modern workplaces have become increasingly obesogenic due to the changing nature of work (e.g. more sedentary type of work, even in industry and manufacturing jobs which have become highly automated), as well as working conditions, such as long working hours. The consequences of workplace obesogenic factors extend beyond the individual level. They may affect the everyday life of employees and their families, by allowing, for example, less time for cooking and eating at home, for family outings, etc. Important factors which influence obesity among employees are:

1. Congested workplaces limiting any opportunities for movement during work hours
2. Lack of facilities for storing healthy food – i.e. refrigerator
3. Lack of break – lunch areas causing employees to eat at their workstations, desks, cars, etc.
4. Lack of onsite healthy food options and physical activity facilities
5. Limited availability of nearby (and safe) recreational areas, green spaces, parks, sports

grounds, etc.

Tools and methods for improving work places:

1. Improving the organization of work, for example:
- to choose flexible working hours;
- choose a job, for example, work at home (remote work),
- Enable lifelong learning, such as doing routine work and expanding work functions.
2. Improving the working environment, for example:
- fostering peer support;
- involvement of employees in the process of improving the working environment;
- caring for healthy food at the canteen.
3. Encouraging employees to participate in health activities, for example:
- the organization of sporting groups;
- bikes that can be used by large staff Workers' territory.
4. Promotion of personal development, for example:
- courses in social skills such as ability overcome tension, organization,
- aid for employees who want to quit smoking.
5. Work-life balance:
- care for social support, such as nurseries.
6. Improving and maintaining the mental health of workers, for example:
- encouraging employees to contribute to corporate governance,
- taking into account their views and views,
- teaching how to reduce tension and relax and confidential
- psychological counselling.
7. Health care:
- regular health, blood pressure, cholesterol and checking blood sugar.
8. Physical activity:
- financial support for external physical activity costs, such as a membership fee for a sports or leisure club,
- organization of organization of sporting events,
- encouraging employees not to use the elevator while climbing the stairs.
9. Promoting healthy lifestyles:
- confidential support and information on alcohol and drugs,
- distribution of information about healthy eating and advice illustration of concrete examples (e.g., care that staff at the canteen get healthy food and should enough time to eat).

Ergonomic environment

There are three common design principles regarding the environmental ergonomics in an office workplace – climate, lighting and noise.

Climate

People work most productively when they are in a comfortable climate. The climate of workplace either can have a positive or negative impact on workplace productivity and comfort. The climate consists of three main components: air temperature, air humidity and air movement.

The best air temperature depends on the season. A range of 20-24°C generally is preferable, but contrast to the outside temperature also may play a role depending on the season. Right around 723°C tends to be the temperature at which the majority of people feel comfortable. There is less

control over air humidity, although it is an easy measure to take. An increased level of humidity tends to increase the level of perceived temperature. As humidity changes with the seasons, so will the humidity in workplace. In winter, recommended that the humidity should be above 30 percent, while in the summer the humidity range should be between 40-60 percent. Air movement typically is minimal in a workplace setting. The recommendation is to keep drafts below 0.2m/s, which is equivalent to a light breeze.

Lightning

A workplace surface is considered to be a "fine work" situation, for which medium-to-high levels of light are needed, specifically in the 45-65 foot-candles (500-700 lux) range. Background and general lighting can be significantly lower, around 30 percent of the minimum value required for the workstation levels, e.g. 15 foot-candles. The maximum recommended contrast that should exist in the field of view is 10:1. Ideally, light sources (including windows) should be positioned to either the left or right. With the line of sight perpendicular to the light source, the amount of direct and indirect (reflected) glare is reduced. Where possible, avoid the use of reflective colors and surfaces, or the use of direct lighting (versus diffuse) to minimize the chances of glare. Workstations generally should be placed away from windows due to the high contrast and glare caused by sunlight.

Noise

The volume of a typical office usually is between 40-60 dB, and the sources of this noise range from computer fans to copy machines to people speaking around you. Generally, higher levels of noise can result in impaired alertness and annoyance both of which decrease performance.

The goal of ergonomics is to design and set up workplaces that are free of health and safety risks, comfortable and productive.

The **Italian** Journal of Medicine, Work and Ergonomics recently published am interesting research on the issue of obesity and workplace (http://slideplayer.it/slide/946777/). The paper discusses about the increase in probability of accidents on the work associate with overweight or obesity conditions. Moreover, the obesity condition could easily influence the ability to work because of the higher probability of muscular-skeletal disorders connected to the disease. In Italy, the national decree 81/2008 helps obese people by asserting that the workplace ergonomic needs to consider the condition. Moreover, the medical service should carefully evaluate the physical condition of the worker because obesity could limit severely the ability to work. The same paper, however, reports positive experience in the field of information for a HL in the Italian workplaces. HL elements are mandatory information in the workers training. In addition, several companies stimulate workers to physical activities by offering discounts to gym, for example, and by promoting a positive image of the employees (https://www.west-info.eu/it/peso-e-lavoro-nuovo-binomio-antitetico/05-2/).

Norway*:* Some jobs entail a degree of risk. One in five employed people are exposed to a poor indoor climate for most of their working hours. There is an interest organisation called Norwegian Society of Ergonomics and human factors that work for the spreading of the right ergonomics principles at the workplace. The ergonomic principles are stated in the Norwegian Working

environment act *(The Norwegian Labour Inspection Authority (Arbeidstilsynet) October 2017);*

Romania. No Elevators Day is a pan-European initiative which is part of NowWeMOVE campaign initiated by ISCA. It had two main objectives:

• Focus the public's attention on the importance of physical activity for health and wellbeing

• Demonstrate how easy it is for citizens to be active despite their busy everyday lives. ISCA and its local partners invited citizens and various organisations, institutions and companies to seal off some of the elevators and escalators in their premises and to encourage their employees or colleagues to take the stairs. European No Elevators Day is a long-term initiative that aims to reach the EU and respectively each country's institutions, organizations and businesses, and to generate positive publicity around the benefits of daily physical activity

The health promotion is under the responsibility of **the Romania Ministry of Health** through the Departments of Health Promotion from the County Health Authorities. The Centre for Health Promotion and Health Education was founded in 1992. It is the methodological body for health promotion, coordinating the activity of departments from local Health Authorities. After 2006, this centre became a department of the National School of Public Health and Management from Bucharest. It has produced strategies for health promotion and health education derived from specific studies on population health. It develops continuing medical education programmes and educational campaigns for population.

In 2004, Romania has launched the National Strategy of Public Health in accordance with the principles of Health for All in the XXIth century (WHO 1998). The priority domains are communicable and non-communicable diseases, mental health and preventive services. Today, in our country, there is a wide range of nongovernmental organizations developing health promotion activities in different areas of needs (alcohol and drug abuse, sexually transmitted diseases, contraception

Prevention of adult and childhood obesity

Population interventions to prevent adult obesity include promoting lifestyle changes, healthier diets and increased physical activity. However, changes in diet habits and increased physical activity are very challenging for most people, although achievable through either community support or strong motivation; for instance, it has been estimated that with dietary and lifestyle modification around 80% of highly motivated patients are unable to achieve weight loss long-term.

Around 60% of the world's population are getting insufficient exercise. This is primarily due to mechanized transportation and labour-saving technology at home. For instance, in both children and adults there is an association between hours of viewing television and the risk of obesity.

Many population interventions to prevent childhood obesity have targeted schools. One common strategy is to ban vending machines that dispense snacks and sugary beverages, while reducing calories in school meals and increasing the children's physical activity.

The following legislation covers the provision of food and drinks in schools in Romania impact on vending operators (Law no. 123/2008 and Order no. 1563/2008 The products banned are as below: Foods containing sugar over sugar 15g / 100g of product except fruits and vegetables; Foods containing fat of over 20g / 100g of the product of which cumulative: saturated fat over 5g

/100g of product, fatty acids over 1g / 100g of product; Foods with salt content of more than 1.5 g salt / 100 g of product and 0.6 g sodium / 100 g of product; Soft drinks except for bottled still drinking water or bottled mineral water; Foods with caloric content of over 300 kcal per unit of sale; Unpackaged food except bananas and oranges; Unlabelled foods.

Schools in Romania have been **banned from selling junk food** including crisps, sweets and biscuits since 2008. The ban imposed by the government aims to promote a healthier lifestyle for youngsters. On the list of banned snacks are salted pretzels, salted nuts, crisps, chips, sweets, hamburgers and pizza. The education ministry said that foods with too much salt or sugar were also banned. Many Romanian schools have kiosks that sell food to pupils. They will now have to sell fruit and bottled water.

National Strategy: The National Action Programme for Health and the Environment was adopted in 1998 and included actions on environmental components (e.g. water, radiation protection, social responsibility etc.), but also nutrition and food safety [2, 53]. A National Strategy on Public Health was adopted in 2004 and includes health promotion and preventive medical services.

National Programmes: Since 1998, twenty-seven national health programmes have been implemented at national level. One of them is the National Programme for Health Education and Health Promotion. All programmes include a health promotion and health education component, and are financed by the Ministry of Health. They consist of annual campaigns and health promotion actions. In 2008 there was a distinct programme called: 'the National Programme on Health Promotion', which included the National Strategy on Health Promotion.

The Nutrition Society of Romania has developed in 2006 a "**Guide to Healthy Diet**. It is a comprehensive material that provides an overview of healthy eating for the Romanian population, as well as practical recommendations specific to different age groups.

The Romanian Television has organized a **petition to introduce nutrition classes in schools**. The TVR campaign is a staff forward against childhood obesity, and also draws attention to the reverse of the medal: mistaken total tips, food myths, or seemingly miraculous diets. Within this campaign, TVR News interviews specialists from a wide range of expertise: doctors, psychotherapists, physiotherapists, teachers, anthropologists, gastronomy specialists and labor market experts. Nearly 7,000 signatures have been almost up to date.

5.5. Public health offices, hospitals

Public health offices, hospitals - projects on HL style, statistical data they publish

The national agency for the healthcare (A.S.L.) promotes and supports all the initiatives oriented to the dissemination of HL information. There are regional and local (one per each city/town) ASL agencies. Each agency develops tight relationships with local schools and local public offices in order to promote HL through specific informative campaigns. One example is the actions of ASL of the city of Taranto (https://www.sanita.puglia.it/web/asl-taranto/news-in-archivio_det/-/journal_content/56/36057/insieme-per-la-salute). They organize training and informative campaigns in the main meeting places of the city (shopping centre, squares, etc.). The Ministry of Public Health promotes HL information on the website

(https://www.sanita.puglia.it/web/asl-taranto/news-in-archivio_det/-/journal_content/56/36057/insieme-per-la-salute). Moreover, there are period publications on the different themes of HL, alcohol consumption, diet, public canteens guidelines, etc., which are publicly available to citizens (http://www.salute.gov.it/portale/documentazione/p6_2_2.jsp?lingua=italiano&area=stiliVita&btnCerca=). Moreover, also the National Statistical Bureau (Istat) has period publications on HL. Throughout the statistical analysis of data based on nationwide surveys they report general statistics with great level of detail about the population and their health, life quality and nutritional status (https://www.istat.it/it/archivio/14562). Another very important project is Okkio alla Salute, it is a national surveillance strategy on childhood obesity. The project allows gathering data and statistics on the issue and promoting healthy habits in schools, hospitals, and households (http://www.epicentro.iss.it/okkioallasalute/).

The snack bars of the units of the **Portuguese** National Health Service will stop selling health-damaging products such as cakes, salty foods, cold meats, and sandwiches with sauces.

As of June 30, 2018, bars in public hospitals and centres are prohibited from selling health food products. According to the Government's order, signed by the Assistant Secretary of State and Health, the contracts to be celebrated for the concession of spaces for the operation of bars, coffee shops and buffets cannot also contemplate the advertising or sale of soft drinks or quick meals. Among the banned products are salted as patties, croquettes, cod crayons, pies and champagnes and cakes like cream pastries, cream cakes, croissants and berlin balls. The rules for the new contracts also mean that you cannot sell biscuits and biscuits with fat and sugar content in excess of 20g per 100g of product, chocolate wafers or cream filled with nuggets of chocolate or butter biscuits.

In addition, they also incorporate a list of soda bans, energy drinks, sweets and sweet or savoury snacks, such as chips or popcorn. Alternatively, the dispatch suggests foods like milk, yogurts, fruit juices, salads, soup or cheese. Drinking water is also available free of charge. The new rules are intended for the institutions of the Ministry of Health, whether they are the direct or indirect administration of the State, or public services and entities that provide health care that are part of the NHS. In the law, it is defined that these institutions have until June 30, 2018 to adapt to the new reality, if this does not imply the payment of damages or other penalties, to review the existing contracts (https://dre.pt/application/file/a/114414905).

6. Social Environment HL experience: social advertising, Healthy eating (organic) products

Social advertising in country – what kind of information is broadcast. Healthy eating products - the choice or opportunity set available to consumers, prices compared to other products, Country policy

Social advertising in **Italy** has always promoted healthy eating. “Eat well” has been a very successful campaign in 2015 (http://www.salute.gov.it/portale/expo2015/dettaglioCampagneExpo2015.jsp?id=96). The core of this campaign has been the healthy eating. The great success of this campaign is the strong connection with Expo 2015. The world exposition hosted by Italy and dedicated to food, in fact, has been a great opportunity to launch public messages about healthy eating from Italy to Italians but also to the rest of the world. Moreover, in that occasion, the “carta di Milan” has been a

fundamental step to promote healthy nutrition, sustainable food production, and the right to access to healthy food. In addition, in the last years, more and more commercial and social advertising has been concentrated on healthy eating.

On the other hand, a parallel phenomenon of social advertising is emerging. The strong investments of junk food industry in social advertising is pushing consumers, especially minors, towards opposite directions compared to healthy eating. Video games advertising, viral contents and guerrilla marketing strategies include often information on junk food rather than healthy food. Those contents are not banned in Italy.

Healthy eating products - the choice or opportunity set available to consumers, prices compared to other products, Country policy

Country policies in favour of healthy eating are numerous. The main strategy at national level, in Italy, concerns nutritional labelling strategies. Producers, in fact, are forced to indicate the nutritional contents of the food in its label. While this is common for packaged food, it is not for prepared food in restaurants and take-away shops. However, Italian health agency, as consequence of Expo 2015, has induced junk food producers to indicate the number of kilo calories on the labels. Unfortunately, there are no pricing policies dedicated to unhealthy food or fat-tax.

Norway: The main focus on social advertising are for products related to health & welfare, electronics and toys. In Norway commercials for alcohol and tobacco is prohibited. And there is a restriction on commercials directed at children.

This spring, the Consumer Ombudsman and the Media Authority in Norway launched new guidance for advertising labelling in social media. This will be regulating the advertising business very well. There is a strong link between TV and screen exposure and adiposity in children and young people. According to the WHO, recent data suggests that children become obese not just because they watch TV instead of being active, but also because they are exposed to food advertisements and other marketing tactics. The research project **TEMPEST** funded by 7th Framework Programme for Research and Technological Development (FP7) suggests that adolescents' use of self-regulation strategies was shaped by for example, the eating-related practices and norms of parents and peers, family food cultures and exposure to food-related advertising.

The food industry has already set up a number of voluntary initiatives to restrict the marketing of less healthy food options to children and young people as part of the EU Pledge62. For example, the World Federation of Advertisers has developed a Nutrition Criteria White Paper. This White Paper sets thresholds for advertising of food products to children under 12 years of age. Given continued developments in the area of advertising, this pledge and other commitments in this area should continue to be reviewed and strengthened. These efforts to restrict marketing and advertising to children and young people should include not only TV but all marketing elements, including in-store environments, promotional actions, internet presence and social media activities. The advertising industry in Romania is similar to the international one. Although the sophistication and refinement of the local advertising market is not up to the level of traditional markets (the United States or Western Europe), when it comes to consumer education, openness regarding advertising, both methodological and instrumental, has been made.

The advertisements have become more diversified and not only insist on pleasure-generating product qualities (taste, aroma, sensation, texture, smell), but underline the positive effects, from the health and well - being point of view, that those foods can offer (no additives and preservatives, use of natural ingredients, various vitamins and minerals or the fact that they are dietary). The target-market segment of this type of advertising is made up mostly of women, who are more concerned about what they eat, but especially what they provide for their children.

The organic food consumption creates only 2% of the total food market, although the consumption of these products is slowly growing (European Commission 2011). Consumption of organic products is not only important for the health, but also organic farming using their resources more efficient, what promotes rural development and employment. Organic products consumption has short-term, long-term economic and political benefits. To form consumer culture need some time, to encourage people to choose more organic products, first need to explore factors, which forms the culture of organic products consumption. When the demand is encouraged, supply could be increased as well, that's why is important for organizations' to find them factors which affects culture organic food consumption, so they could increase sales of their products. Research, done in Lithuania results are showed that the organic consumer culture in Lithuania is influenced by two factors: consumer values and attitudes with habits.

The survey "Consumption of Organic Food Products and Related Information Sources in Lithuania" shows: the majority of respondents (90%), mostly women (54%), responded that they consumed organic products on a more or less frequent basis. Most of such products were consumed by families with the income per one member amounting to over LTL 900. Respondents would be more encouraged to consume organic food products through the variety of supply, a larger network of shops and more information on organic products in places of trade. Some of respondents received information mainly from a close circle of friends, acquaintances, and family members. Second ranks the information provided on the labels of, and the third come the national and commercial television. Consumers need much more information about the production or growing conditions of products, places of sale, composition (ingredients) of products.

Portuguese Project "Healthy Hyper Movement"

Through this Project various educational contents and information supports were made available, based on eight "Commitments":

- Eat breakfast every day,
- Eat 5 pieces of fruit / vegetables a day,
- Not to be more than 3h30 without eating,
- Always read the labels of the products purchased,
- Exercise 3 times a week,
- Keep the body always hydrated,
- Plan meals weekly,
- Convey foods with less salt, fat and sugar.

The Directorate-General for Health, through the Obesity Platform Division, contributed to the commitment "Always read the labels of purchased products", which was issued by

national television

7. Conclusions

1. Healthy lifestyle is a daily way of life that strengthens and improves the body's reserve capacities, helps people to stay healthy, save or even improve their health.

2. An analysis of various scientific sources makes it clear that a healthy lifestyle is a multivariate concept that includes the following main elements: nutrition, breastfeeding, physical activity / passivity, consumption / non-consumption of tobacco, consumption / non-consumption of alcohol and other psychoactive substances, the use of pharmaceuticals, work and rest (sleep) mode, sexual behaviour, the stress and ability to overcome it, hygiene habits, preventive health check-ups, any behaviour that can affect health (e.g., driving habits, seat belts in the car, participation in fights, long sunbathing or solarium, promotion of health-promoting sports, etc.).

3. Obesity or overweight status is defined by body mass index (BMI), which is derived by dividing weight in kilograms by the square of height in meters.

4. Among the EU Member States, the lowest shares of obesity in 2014 among the population aged 18 or over were recorded in Romania (9.4%) and Italy (10.7%), ahead of the Netherlands (13.3%), Belgium and Sweden (both 14.0%). At the opposite end of the scale, obesity concerned more than 1 in 4 adults in Malta (26.0%), and about 1 in 5 in Latvia (21.3%), Norway (24%), Hungary (21.2%), Estonia (20.4%) and the United Kingdom (20.1%). Portugal and Lithuania obesity level is close to the EU average. Following the results of national and regional surveys, the most important action to improve healthy lifestyle, particularly for children and elders, is the increase of physical activity. Traditionally Norwegians have been very active in outdoors and sports. Although sports activities play an important role in children's development, recent studies show that Romanians do less sport, and so do their children. Only 36% of young people (15 to 21 years old), 27% of adults and 22% of elderly people (65 to 84 years old) are physically active in Portugal, complying with current WHO recommendations on physical activity for health. The 23,5% of 8-9 years old children dedicates no more than one day a week to active movement games and 33,8% no more than one day of structured physical activity (training, sport etc.) in Italy. The long-lasting, health-related physical activity-oriented national strategy is essential to foster physical activity, health, and quality of life at the national level. The multiplicity of possibilities in the physical activity would foster lifestyle activity instead of adoration of body image and would improve the psychological and physical well-being of the population. Lithuanian children obesity in is determined by two factors: inappropriate nutrition and lack of physical activity. In Portugal, as in other developed countries, the main causes of mortality and morbidity are food-related diseases. Obesity is one of the most severe public health problems in the European Union, in the twenty-first century. Portugal is one of the countries where overweight and obesity have increased considerably in recent decades. Although the rate of obesity among adults in Portugal is relatively low compared with other OECD countries, the share of Portuguese boys and girls with excess weight exceeds that of a majority of OECD countries.

5. Family lifestyle has very big impact on children obesity. Risk having children overweight

and obese is increasing when at least one of the parents is overweight. This is a confirmation of the important role of the parental model in the development of incorrect lifestyles by the children and adolescents. The family is the first environment in which healthy lifestyles should be conducted. From other hand, family environment gives a primary imprinting of negative lifestyles. For instance the overuse of TV, PC, tablet and video gaming, consuming of alcohol in the family context is directly affecting in a negative way the behaviour and habits of the youngest generations, promoting sedentary lifestyles and reduction of weekly time dedicated to outdoor activities.

6. Possibilities for families. Primary health care is providing by family doctors, internists and paediatricians in all partners countries. Italian Society of Paediatrics offer special materials for the families and obesity prevention so as different project for updating medicals and nurses skills in the frame of family obesity prevention, organized specific courses for Family-based Therapeutic Education for obesity. "Obesity day" is organizing every year. The Norwegian social service also has family therapeutics that normally can go in as counsellors in families that struggle with everything from behaviour to health.

7. Family education models. Usually not one but all family members have obesity problems because of non-healthy life style and inappropriate nutrition. Children are free to buy from the school's shop unhealthy food. It's why family education plays very important role in children obesity prevention.

8. Healthy lifestyle training in schools. Public health care specialists or community nurses that completed the special health education program for schools work in Lithuanian schools. In Norway schools, there are only two types of professionals who work on HL: nurses and physical education teachers.

9. Personal attitude and subjective norms are the ground of HL teaching in Italian system. Personal attitude refers to the interior motivation. Subjective norms refer to the perception that an individual has about others' expectations. Good practice examples:

- the Pedi bus project (It is an initiative that stimulates pupils to go to school by foot),
- Fruit in school (specific activities to better known fruits, to explore the importance of fruit into personal nutrition and everyday life.).
- „I eat healthy at school"- the children learn how to eat healthy during the school breaks
- „The Healthy Traditions for Healthy Children'' original nutrition education intervention was developed.
- ''The Granny's Health Bag'' educational kit promotes healthy habits, using original messages based on local culture.
- Milk and Croissant national programme aims at providing healthy food choice to all students by offering them in each school day, at lunch time, a small bottle of milk/yoghurt and a croissant/bagel.
- The School Fruit Scheme - This programme aims to increase the consumption of fruit and vegetables at school to encourage healthier eating habits, in the context of declining consumption of fresh fruit and vegetables and increasing incidence of child obesity.

10. Healthy lifestyle training in Universities. Students are promoted to participate in various events that promotes healthy life style e.g. volleyball match for woman's day celebration, lecture about yoga and stress management, event for World's Health Day etc. In Italy, healthy lifestyle is often associated to Mediterranean diet. Main HL emphasis in teaching teachers and nurses are: food and wellbeing; physical activity and wellbeing. Not enough attention is dedicated to the subjective norms, the family behaviour and the synergic role of family friends and reference people. Portugal health and educational professional´s need´s to developing skills that can improve knowledge and promote healthier habits in families. The National Programme for the Promotion of Healthy Eating (PNPAS), established in 2012, aims to improve the nutritional status of the population and to promote their health, through a coordinated and transversal set of actions intended to guarantee and encourage the availability and the access to a specific type of foods. The share of total expenditure dedicated to prevention activities in Portugal (1.8%) is almost half of that spent on average by 27 OECD countries (2.8%).

11. Modern workplaces have become increasingly obesogenic due to the changing nature of work. Good practice examples:

- no Elevators Day
- the organization of sporting groups;
- bikes that can be used by large staff Workers' territory.
- healthy food at the canteen.
- regular health, blood pressure, cholesterol and checking blood sugar.
- financial support for external physical activity costs, such as a membership fee for a sports or leisure club,
- organization of organization of sporting events,
- encouraging employees not to use the elevator while climbing the stairs.
- confidential support and information on alcohol and drugs,
- distribution of information about healthy eating and advice illustration of concrete examples (eg, care that staff at the canteen get healthy food and should enough time to eat).

12. Social advertising plays very important role in obesity prevention. There is a strong link between TV and screen exposure and adiposity in children and young people. According to the WHO, recent data suggests that children become obese not just because they watch TV instead of being active, but also because they are exposed to food advertisements and other marketing tactics. The main strategy in EU, concerns nutritional labelling strategies. "Eat well" - Social advertising in Italy. On the other hand, video games advertising, viral contents and guerrilla marketing strategies include often information on junk food rather than healthy food. Those contents are not banned in partners' countries.

References

1. "Research on the peculiarities of students' nutrition" L. Samsonienė, V. Zimnicka
2. Andrius Norkus "Healthy lifestyle in Lithuanian Student population: Educational diagnostic approach"
3. D. Dučinskienė, R. Kalėdienė, J. Petrauskienė "Quality of life among Lithuanian University students"
4. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/150EN.pdf
5. http://internalmedicine.imedpub.com/eating-habits-and-influential-factors-for-mothers-andchildren-in-romania.pdf
6. http://journals.sagepub.com/doi/pdf/10.1177/1942602X12460891
7. http://rjp.com.ro/articles/2016.1/Pedia_Nr-1_2016_Art-10-en.pdf
8. http://ro.sodexo.com/en/home/media/noutati/newsListArea/noutati/programul-national-de-sanatate-p.html
9. http://stiri.tvr.ro/semneaza-peti-ia-pentru-introducerea-orelor-de-nutri-ie-in-coli-lupta-alaturi-de-televiziunea-romana-impotriva-obezita-ii-infantile_818489_comentarii.html#view
10. http://worldschool2017.com/wp-content/uploads/2017/09/Research-Booklet-ROMANIA.pdf
11. http://www.epicentro.iss.it/okkioallasalute/dati2016.asp
12. http://www.epicentro.iss.it/passi/dati/sovrappeso.asp
13. http://www.epicentro.iss.it/problemi/obesita/EpidItalia.asp
14. http://www.euprimarycare.org/column/primary-care-lithuania
15. http://www.euro.who.int/__data/assets/pdf_file/0005/288122/ROMANIA-Physical-Activity-Factsheet.pdf?ua
16. http://www.express.co.uk/news/world/62081/Romanian-schools-ban-junk-food
17. http://www.fao.org/3/a-as693o.pdf
18. http://www.jneb.org/article/S1499-4046(14)00284-X/pdf
19. http://www.salute.gov.it/portale/quaderni/sfogliabili/29/mobile/index.html
20. http://www.who.int/medicines/areas/priority_medicines/BP1_introduction.pdf
21. https://drive.google.com/file/d/0ByrmB5TpSw-3cDhFcm9vazF0S2s/view
22. https://drive.google.com/file/d/0ByrmB5TpSw-3cGFWWWZkZUVnaU0/view
23. https://drive.google.com/file/d/0ByrmB5TpSw-3dzNOUDQ4NGVacGs/view
24. https://drive.google.com/file/d/0ByrmB5TpSw-3eFJQQWFrZFZFbms/view
25. https://drive.google.com/file/d/0ByrmB5TpSw-3MXlIdlJqOXR3MGM/view
26. https://drive.google.com/file/d/0ByrmB5TpSw-3MzM4eG5uQTdhM28/view
27. https://drive.google.com/file/d/0ByrmB5TpSw-3QW5meUNnS2RxM0k/view
28. https://drive.google.com/file/d/0ByrmB5TpSw-3R3I4SE1fMkNHaVU/view
29. https://drive.google.com/file/d/0ByrmB5TpSw-3TjJJYmVaYVpzeGs/view
30. https://drive.google.com/file/d/0ByrmB5TpSw-3Yzl0NWVLZ3dMaDA/view
31. https://osp.stat.gov.lt/informaciniai-pranesimai?eventId=93819
32. https://perspectives.eiu.com/sites/default/files/ConfrontingobesityinCEE_0.pdf
33. https://www.childcareexchange.com/library/5018916.pdf
34. https://www.fhi.no/nettpub/hin/;
35. https://www.hindawi.com/journals/bmri/2013/537451/abs/
36. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4235199/
37. https://www.researchgate.net/publication/275542431_Initiation_and_Development_of_the_First_Undergraduate_Degree_Program_Nutrition_and_Dietetics_in_Romania
38. https://www.romania-insider.com/over-40-of-romanian-children-dont-do-any-sports/
39. https://www.unicef.org/romania/health_nutrition_hivaids_1614.html
40. INRAN 2003 "Linee guida per un asana alimentazione Italiana (Ministry of agriculture and

Forestry, National Institute for Food and Nutrition).

41. IPASVI 2017. L'alimentazione come stile di vita per una buona salute - Federazione IPASVI
42. Standard Italiani per la Cura dell'Obesità S.I.O. / A.D.I. 2012 / 2013 (Italian Society for Obesity – Italian Association for Dietistic and clinical nutrition).
43. Guidelines for the prevention of obesity at the workplace: http://www.enwhp.org/uploads/media/GPOW_Guidelines_short_version.pdf
44. http://www.plataformacontraaobesidade.dgs.pt/PresentationLayer/conteudo.aspx?menuid=469&exmenuid=436&SelMenuId=469
45. http://www.dge.mec.pt/sites/default/files/AccaoSocialEscolar/reg_ce_657_2008.pdf
46. https://ian-af.up.pt/sites/default/files/IAN-AF_%20Relato%CC%81rio%20Resultados_v1.5.pdf
47. https://www.dgs.pt/pns-e-programas/programas-de-saude-prioritarios/atividade-fisica.aspx
48. http://www.who.int/mediacentre/factsheets/fs385/en/