



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196



TRANSNATIONAL RESEARCH AND ANALYSIS OF THE LEGAL AND FACTUAL STATUS AND PROBLEMS IN THE SPHERE OF NUTRITION OF CHILDREN AT THE AGE OF 4 TO 10 YEARS OLD

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Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

CONTENT

1. Introduction	3
2. How is child nutrition organized at national level in kindergartens and primary schools...9	
In Greece	9
In Lithuania.....	11
In Italy.....	12
In Turkey	14
In Spain.....	15
In Bulgaria	18
Issues identified on a local, regional or national basis	20
3. Good practices	22
4. Identified problems at national levels / initiatives that should be implemented (i.e. non-formal education initiatives) and conclusions	28
In Greece.....	28
In Lithuania.....	28
In Italy.....	29
In Turkey	30
In Bulgaria	31
In Spain.....	31
References	33





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

1. INTRODUCTION

Nutrition is of major importance for the proper development and growth of the child. It can be considered as the main precondition for the good health and the appropriate physical and psychological development. Proper nutrition increases the defense functions of the body, thus helping it to counteract not only to various chronic diseases, but also to the negative influences of the environment¹.

More and more often the children tend to eat an unbalanced diet – they either consume an insufficient amount of nutrients, or too much and usually unhealthy foods. In addition to the physical problems, resulting from improper nutrition, children with a poor diet get tired quickly, their intellectual and physical capacity decreases together with their ability to focus and memorize².

According to the “Convention of children rights”, adopted by the UN in 1989, children must be provided with health friendly nutrition in order to be as healthy as possible. The last revision of the collected texts of the “European Social Charter”³ from January 2015 also explicitly states in article 11 “The right to protection of health with a view to ensuring the effective exercise of the right to protection of health, the Contracting Parties undertake, either directly or in co-operation with public or private organisations, to take appropriate measures designed inter alia:

1. to remove as far as possible the causes of ill-health;
2. to provide advisory and educational facilities for the promotion of health and the encouragement of individual responsibility in matters of health.”

In addition to this, the Regional European office of WHO (World Health Organization) has approved in 2006 a document titled “Gaining Health”⁴ a specific program aiming to prevent and control chronic diseases. At the end of 2007 WHO and EU Commission have approved the “Health in all policies” to promote elaboration of policies in different sectors as alimentation, environment, commerce, education, industry, work and transport, which is in direct relation with the EU White Paper “A Strategy for Europe on Nutrition, Overweight and Obesity Related Health Issues” as of 30 May 2007.

Parallel with all these efforts for maintaining the good health of global population, according to World Health Organisation, estimates of the number of overweight infants and children in the WHO European Region have been rising steadily since 1990. “Childhood obesity is strongly

¹ National center for preservation of public health. Recommendations for healthy nutrition of children at the age of 3 to 6 years old in Bulgaria. Accessible from: http://ncpha.government.bg/files/3Preporokyki_3-6_g.pdf, 16.11.2016

² Strazdienė, N. Vaikų sveikos mitybos įpročių ugdymas pradinėje mokykloje: mokytojų nuomonė. Tiltai. 2014, 1.

³ European Social Charter – Collected texts (7th edition), Updated: 1st January 2015 - <https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=090000168048b059> - checked on April 4th, 2017.

⁴ http://www.euro.who.int/data/assets/pdf_file/0008/76526/E89306.pdf - checked on April 4th, 2017





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

associated with risk factors for cardiovascular disease, type 2 diabetes, orthopaedic problems, mental disorders, underachievement in school and lower self-esteem”⁵.

All partner countries within this project share worrying statistics. For example, according to the estimates from the first round (2007/2008) of the WHO European Childhood Obesity Surveillance Initiative (COSI)⁶ demonstrated that among 7-year-olds 28.2% of boys and 27.7% of girls in **Bulgaria** were overweight and 12.6% and 12.0% respectively were obese in Bulgaria. The data from a national representative research among students at the age of 6-19, conducted during 2010-2011, demonstrate that for the situation for the group 6-9-year-olds has worsened substantially - 39,0% of the included boys and 32.4% of the included girls were overweight, with obesity prevalence figures for the same age group – 20.4% for the boys and 15.2% for the girls. Comparison between older and more recent data outlines a worrying obesity trend among the children in Bulgaria⁷.

For **Lithuania** the estimates from the first round (2007/2008) of COSI demonstrated that among 7-year-olds 24.8% of boys and 21.0% of girls were overweight and 9.4% and 7.2% respectively were obese.⁸

This tendency is confirmed also by a guide for active and healthy schools – published as orientation for centers of primary education in Spain in 2008, which underlines that: “Child Obesity: A problem of great dimensions. Data on childhood obesity show a rapid increase in multiple countries. In Europe, it is estimated that, each year, 400,000 new boys and girls become obese.” In **Spain**, the enKid study shows that 4 out of 10 schoolchildren aged 6 to 10 years are overweight, of which 1 is obese. In adolescents the data are equally worrisome and show that 1 in 3 adolescents are overweight and 1 in 20 is obese. According to COSI⁹ national analyses of the Spanish data for 2009/2010 reveal that 44.5% of the children aged 6-9 years were overweight and 18.3% were obese. And even more worrying is the fact that the annual growth of childhood obesity seems to accelerate year after year, placing Spain among the leading countries in Europe.¹⁰

⁵ <http://www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/data-and-statistics>

⁶ The country profile for Bulgaria, covering developments in nutrition, physical activity and obesity in the WHO European Region. Available at: http://www.euro.who.int/_data/assets/pdf_file/0020/243290/Bulgaria-WHO-Country-Profile.pdf?ua=1

⁷ National center for public health and analyses. *National research of the nutrition status of students*. Sofia, 2010-2011

⁸ The country profile for Lithuania, covering developments in nutrition, physical activity and obesity in the WHO European Region. Available at: http://www.euro.who.int/_data/assets/pdf_file/0013/243310/Lithuania-WHO-Country-Profile.pdf?ua=1

⁹ http://www.euro.who.int/_data/assets/pdf_file/0020/243326/Spain-WHO-Country-Profile.pdf?ua=1

¹⁰ MINISTERIO DE SANIDAD Y CONSUMO Agencia Española de Seguridad Alimentaria y Nutrición Subdirección General de Coordinación Científica. N.I.P.O.: 355-08-008-5 I.S.B.N.: 978-84-691-3646-1 DEPÓSITO LEGAL: M-35173-2008 Available at:

http://www.aecosan.mscsj.gob.es/AECOSAN/docs/documentos/nutricion/educanaos/profesores_escuela_activa.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

Another partner country that is facing huge problems in this domain is **Greece**. According to the WHO and its European Childhood Obesity Surveillance Initiative (COSI)¹¹, the obesity rate in Greece is significantly higher than the obesity rates in the other European counterparts. According to COSI results, 48.9% of the boys and 44.8% of the girls in the second grade of primary school weigh more than normal and these rates are the highest among the 16 countries included in the survey. For those who are one year older – in 3rd grade – the rates are 57.2% of the boys and 50.0% of the girls weighing above normal.

The COSI 2007/2008 estimates for **Italy**¹² show that among the 8-year-olds 49.0% of the boys and 42.5% of the girls were overweight and 26.6% and 17.3%, respectively, were obese. Among 9-year-olds, 47.1% of the boys and 40.1% of the girls were overweight, and 25.7% and 15.8% respectively, were obese.

Turkey joined the COSI¹³ during the school year 2012/2013 and there are still no data, however according to the measured data from a national survey carried out in 2009¹⁴, the proportion of overweight schoolchildren aged 6-10 years was 22.4% in boys and 18.6% in girls; and the proportion that were obese was 7.4% and 5.4% respectively.

In an attempt to respond to these worrying trends, all the countries involved in the project have placed a strong emphasis on protecting the children's health and their chances for healthy adulthood through healthy nutrition by means of appropriate **legislation and regulations**. Thus for example:

- In 2007 the Italian Health Minister adopted the "Guadagnare Salute – rende facili le scelte salutari" a global strategy that aims to promote healthy friendly life styles.
- The Ministry of health of Bulgaria issued Regulation № 6 as of 10 August 2011 for the healthy nutrition of children at the age of 3 to 7 years old and Regulation № 37 as of 21 July 2009 for the healthy nutrition of students, immediately supported by the Ministry of agriculture and foods, which elaborated Regulation № 9 as of 16 September 2011 for the specific requirements towards the safety and quality of foods, provided in kindergartens and school cantinas and the retail food shops in the schools. The Ministry of agriculture and foods also implements the European policy

¹¹ Wijnhoven, T.M.; van Raaij, J.M.; Sjöberg, A.; Eldin, N.; Yngve, A.; Kunešová, M.; Starc, G.; Rito, A.I.; Duleva, V.; Hassapidou, M.; Martos, É.; Pudule, I.; Petrauskiene, A.; Sant'Angelo, V.F.; Hovengen, R.; Breda, J. WHO European Childhood Obesity Surveillance Initiative: School Nutrition Environment and Body Mass Index in Primary Schools. *Int. J. Environ. Res. Public Health* 2014, 11, 11261-11285.

¹² The country profile for Italy, covering developments in nutrition, physical activity and obesity in the WHO European Region. Available at: http://www.euro.who.int/_data/assets/pdf_file/0018/243306/Italy-WHO-Country-Profile.pdf?ua=1

¹³ The country profile for Turkey, covering developments in nutrition, physical activity and obesity in the WHO European Region. Available at: http://www.euro.who.int/_data/assets/pdf_file/0017/243332/Turkey-WHO-Country-Profile.pdf?ua=1

¹⁴ Evaluation of Growth in Turkish Schoolchildren (6-10 age group) project: research report. Ankara, Ministry of Health and Hacettepe University Department on Nutrition and Dietetics, 2011.





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

for better public health through the adoption and implementation of the “School fruit” and “School milk” programmes.

- In 2015 in Greece, National Nutrition Guidelines were drafted by the Ministry of Health, covering the period from birth to 18 years of life for healthy infants, children and adolescents in Greece. It is important to note that there are also national priorities and an established policy concerning nutrition and diet with a focus explicitly on children. The importance of bringing the country’s children back to healthy nutrition and lowering the number of overweight and obese children is visible also through the fact that 10 years ago Greece added a new non-compulsory subject area in the school curriculum, namely the Public Health Project.

- In Lithuania the national strategy “Lithuania 2030”, among others, sets the following task: to create appropriate learning environment in all schools: laboratories for natural sciences, tools for art education, spaces for healthcare education, etc.¹⁵ The fact that child nutrition is important for the responsible institutions in Lithuania is also substantiated by the announcement of 2014 by the Parliament of the Republic of Lithuania as the year of children’s health¹⁶. Similarly to the BG programmes mentioned above, in 2014, the Ministry of Agriculture of the Republic of Lithuania approved the “Strategy to encourage consumption of fruit in educational institutions for 2014-2017” (the target of 400 grams of fruit and vegetables per day per child is the same also in BG) and then in 2015, the Ministry of Agriculture of the Republic of Lithuania approved the “Strategy to encourage consumption of dairy products in educational institutions for 2015-2016”.

- In Spain the legislative system includes Law 17/2011, of July 5, on Food Security and Nutrition, which promotes food security as a fundamental aspect of public health, to offer guarantees and objective information to the consumers and economic agents of the Spanish agro-food sector, and to plan, coordinate and develop strategies and actions that promote information, education and health promotion in the field of nutrition, and especially the prevention of obesity.^{17 ii}; it is also important to mention the National Plan for Official Control of the Food Chain (PNCOCA)¹⁸, which is the document that describes the official control systems throughout the food chain in Spain, from primary production to points of sale to the end consumer. The Plan is complete and comprehensive and describes the official control actions of the different Spanish Public Administrations in their areas of responsibility. Focused on the children though is the Code of co-regulation of advertising for food products and beverages directed to children, prevention of obesity and health (PAOS Code)¹⁹, which falls within the framework of the NAOS Strategy

¹⁵ Lietuvos Respublikos Seimo nutarimas dėl valstybės pažangos strategijos „Lietuvos pažangos strategija „Lietuva 2030“. 2012 m. gegužės 15 d. Nr. XI-2015.

¹⁶ Jaunimo reikalų departamentas prie Socialinės apsaugos ir darbo ministerijos. Prieiga per internetą: <http://www.jrd.lt/jrd-veiklos-naujienos/vienas-svarbiausiu-prioritetu-europos-sajungoje-vaiku-ir-jaunimo-sveikata> [žiūrėta: 2017 m. vasario mėn.].

¹⁷ In: BOLETÍN OFICIAL DEL ESTADO, Núm. 29, Lunes 3 de febrero de 2014, Sec. I. Pág. 7272

Available at: <https://www.boe.es/boe/dias/2014/02/03/>

¹⁸ Available at: http://www.aecosan.mssi.gob.es/en/AECOSAN/web/seguridad_alimentaria/seccion/pncoca.htm

¹⁹ Available at:

http://www.aecosan.mssi.gob.es/AECOSAN/docs/documentos/nutricion/Nuevo_Codigo_PAOS_2012_ingles.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

launched in 2005 by the Spanish Ministry of Health and Consumption, aiming at “reducing the prevalence of obesity and overweight and their consequences, in as much in the area of public health as in their social repercussions” - a goal shared by the World Health Organisation and the EU institutions.

- In Turkey the National Ministry of Education issued the communique No. 0.757.378-10.06E2852893 on 10.03.2016, which covers the issues related to the Inspection of the Food Sold in School Canteens and Food Premises in Educational Institutions Regarding the Hygiene.

The school canteen or, as is the case in some countries/schools/kindergartens, the subcontracted provider of nutrition for the children is of fundamental importance for the observation of certain rules/requirements and is the actual implementer of the countries’ urge for higher quality foods for the children. A good food production management can boost health friendly food habits throughout innovative menus both at school as well as at kindergarten and promotion of new dishes/recipes. Food providers (canteens for example) can play a substantial role in the food education of children, family and teachers. Great efforts need to be put in this regard, because usually the practice of the food providers is to observe the fixed rules or recipes for the respective country without striving to go beyond, improve, add and hence invest more in the service they are providing. In Italy the food providers are observing the guidelines of Levels Reference of nutrients and energy for the Italian population (LARN). In Bulgaria, in addition to the above mentioned regulations, exists also a “Collection of recipes for the school cantinas and buffets”, while in Turkey, the requirements towards the providers of nutrition for children are fixed in the above mentioned communique by the Ministry of education. In Spain the food providers need to follow the general requirements of the Spanish Agency For Food Security And Nutrition (AESAN) as well as the decision of the Inter-territorial Council of the Spanish National Health System on nutritional recommendations for school meals that include recommended nutritional daily intake values, by providing information for families, tending to special requirements and by developing criteria for offering healthy options in vending machines, canteens and kiosks in educational facilities – these recommendations are also, referred to as the Nutritional conditions for planning school meals.

The school canteens and food providers are obliged at all times to observe strict national hygiene regulations and requirements, because even the best menu can do grave harm to children’s health if hygiene is neglected. Excellent is the existing practice with a “Rogue Catering Companies” list in Lithuania, which is actually a black list of companies that fail to deliver the appropriate quality as far as hygiene of food production and delivery is concerned. The existence of such a list could act as stimulus for high performance.

The work of the partners, related to the national and transnational researches, has not only used officially published documents by EU and global institutions, but has also involved a number of schools and kindergartens that have provided invaluable insight on the issues of child nutrition, based on their experiences, on good practices they have witness or implemented, as well as on their responsible attitude towards the healthy future of the children they are currently educating. Each partner works with at least 10 educational institutions within its country – primary schools





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

and kindergartens (children aged 4 to 10) and involves them on each step of the project evolution.

Before we proceed with the next sections in this transnational report, here comes a summary of the pieces of advice concerning the children’s nutrition, going beyond the basic ones – high quality of food, a high level of nutritious elements and hygiene standards – these are: offer a varied menu, add grain foods, provide lots of vegetables and fruits – preferably raw, offer milk and dairy products, use meats that are low in fat and provide fish and beans, limit the intake of sugar, sweets and soft drinks, lower the use of salt, make sure the children drink enough water, prepare and preserve the food in a way, guaranteeing its safety, try to involve the children in the preparation of the food, make sure the children never to miss breakfast and to exercise as often as possible.





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

2. HOW IS CHILD NUTRITION ORGANIZED AT NATIONAL LEVEL IN KINDERGARTENS AND PRIMARY SCHOOLS

The case of Lithuania, Greece, Bulgaria, Spain, Italy and Turkey.

The proper organisation of nutrition in pre-schools and schools is important and makes an essential contribution to the health and well-being of children. When appropriate laws and regulations, process and systems are in place, and when these are followed, then it is much more likely for children to receive the best possible nutrition at school. Equally important are the laws, regulations, process and systems that ensures that the food prepared, served and sold at schools are safe to eat and of good quality.

Although the process and organisations differ somewhat from country to country, the governments of the partner countries all have the same aims and goals: **to establish the necessary procedures to ensure that all children attending educational institutions are provided with food that is healthy, safe, of good quality and that the food is prepared, distributed and served according to strict rules of hygiene.** In addition, regular inspections take place in order to maintain the highest possible standards in the preparation and serving of the food to be consumed by children.

This following sections describe how the issue of child nutrition is organized in kindergartens and primary schools in Greece, Bulgaria, Lithuania, Spain and Turkey. Knowing the context within which the schools operate is important when reading this section. For this reason basic contextual information is outlined in order to help the reader understand the challenges that emerge and the main ideas underpinning the recommendations for improvement.

In Greece

In **Greece**, the food provided is different for different types of educational institutions and ages. At play schools (1-5 year olds) children are served breakfast, snacks and cooked lunches. However, in kindergartens (4-6 year olds), the parents have full responsibility for preparing their children's. Finally, in primary schools (6-11 year olds), the only food that is made available to school students is through school canteens that sell snacks and drinks.

The process through which food fit for consumption by children at school varies depending on the type of school and is regulated either by the local or central government.

Play Schools operate under the authority of the local municipality, each of which sets their own food quality standard as well as the budget allocated for this purpose. The municipalities call for





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

tenders from independent food and catering companies to supply the play schools in the region with food and food products. In their bid, tenderers must certify that:

- they meet certain rules and regulations: European regulations, Greek legislation, the Greek Food and Drink Code;
- they have implemented HACCP or ISO 22000: 2005 (Certification of Food Safety Management System);
- the food comes from legally operating factories and companies.

Kindergartens do not provide children with food and children bring their own packed lunch. As such, no rules or regulations regarding the approval process for food consumed by children at kindergartens are required. The teacher may provide the parents with healthy food guidelines, such as choosing home-made food over shop-bought products or encourage parents to include seasonal fruit and vegetables in their children's packed lunch. When it comes to primary school, the process to approve food for consumption at school falls under the authority of the national government. The canteen operator must be certified by EFET (Hellenic Food Authority) which develops and maintains a register of food-related businesses and oversees the audit program carried out by its services or other authorities and services nationwide.

According to the governmental law²⁰, the diet of children attending public play schools is determined by modern pediatric views on healthy eating for children. In general, very strict and specific regulations and guidelines exist in terms of both the types of food and portions sizes that are allowed and forbidden to be sold at primary schools, while at play schools these are more general, with the exact diet being decided by the school head with the help of health professionals. As children attending kindergartens bring their own food from home, no regulations have been developed.

More specifically, at play schools where food is served

- it must be of adequate and proper qualitative composition, determined daily by the doctor and the Director / Director of the institution.
- Parents have to be informed of the weekly or monthly dietary plan, which must also be clearly displayed.
- Particular care should be taken with uncooked foods (fresh fruit and vegetables, fresh meat and fish, dairy products, etc.) for health and safety reasons.
- The food should be provided in sufficient quantities to meet the children's nutritional needs and food containing additives (preservatives, colouring, artificial sweeteners, etc.) should be avoided or limited.

For private play schools, the exact same rules apply, only that here the management of the kindergarten can work with a dietician to come up with a more complete dietary plan and to

²⁰ http://www.pdimitrakopoulos.gr/files/kylikeio_8_2013.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

choose better quality raw materials for any food that is made. As far as the food portions are concerned for kindergartens, there are no specific requirements as no food is served in these institutions and the parents are solely responsible for providing their children with food to be consumed at school.

The nutrition of the students enrolled in public primary schools is almost exclusively provided through the concept of the “school canteen”. School canteens have very specific and very strict regulations to follow regarding the food products they are allowed to be sold at primary schools as well as the allowed food portions. The instructions and guidelines have been composed by the Greek Ministry of Education in collaboration with the Ministry of Health, which specifies foods and beverages that are approved and not approved for sale as well as the allowed portion sizes.

Any food products that are not on the list of recommended products are automatically forbidden. There are, however, some additional instructions and guidelines that school canteen operators should follow:

- Juices should not contain added sugar or sweeteners.
- To the fresh salads they are allowed to add olive oil, wine vinegar or lemon but they are not allowed to add salt.
- Yogurt should not contain added sugar.
- Smoothies that are freshly made at the school canteens should not contain added sugar.
- Drinks prepared from instant powders are not allowed.

In Lithuania

Catering for children in pre-schools and primary schools in Lithuania is organized with regard to two main laws, stating that children’s catering should be organized in canteens or other premises and places adapted for children’s catering and that the requirements of food safety and food preparation must be kept and conditions for every child to eat at a clean table must be assured.

Catering to educational institutions for children and principles of menus formation are regulated by Ministry of Health orders. To help ensure the best quality food, contracts with food suppliers must include responsibilities for providing food products that do not meet the requirements and a pre-determined list of specific products, their composition and net quantity is recommended.

Detailed laws and regulations regarding govern the entire process of supplying and serving food to children at educational institutions, covering

- substances and residues in animals and animal products
- food and water
- product labeling and price indication
- product sampling and payment procedure





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- food hygiene standards
- nutrition planning and menu coordination in educational institutions
- recommended daily nutrient and energy intake.

More specifically²¹,

- Fruits, vegetables, berries, potatoes must comply with requirements issued by the State Food and Veterinary Service Director and the Ministry of Agriculture.
- Food must be prepared and served on the same day. Semi-frozen or chilled food can be served within 24 hours.
- Served food must be of high quality, diverse and comply with safety requirements.
- The same dish can be served only once a week, except drinks and snacks.
- Main course should be served hot and include both protein-rich products and carbohydrate-containing products. Vegetables, fruits or salad must be served with hot meal.
- Salt, pepper or mustard should not be placed on the table.
- Only unsweetened tea can be offered.
- Milk and other drinks for children cannot be served cold, the recommended temperature is not lower than 15 ° C.
- Meals should be offered to young children at pre-school education institutions at least every 3,5 hours, menus should be planned according to recommended daily intake of energy and nutrient standards for children considering the time children spent at school and catering routines and menus must be published on the website.

In Italy

At a national level, menus are decided by each Municipality, in cooperation with a nutritionist. The Italian Ministry of Health has defined some Guidelines for nutrition at school, but Municipalities are free to respect these or not. Following are descriptions of the organization of food provision to educational institutions in three different Municipalities:

In the **Municipality of Empoli** food sold and served in educational institutions is regulated by the regional law L.R. n. 53/81. The service is managed directly by the school, but the effective operation of food provision is shared by the AUSL (Regional Sanitary Authority), the Municipality, the School District Office, parents and teachers.

1. The AUSL is responsible for
 - the supervision of the hygiene and nutritional characteristics of food and nutritional table adopted;

²¹ Įsakymas dėl maitinimo organizavimo ikimokyklinio ugdymo, bendrojo ugdymo mokyklose ir vaikų socialinės globos įstaigose tvarkos aprašo natvrtinimo. 2011 m. lapkričio 11 d. Nr. V-964. (redakcija 2015 m. rugpjūčio 27 d. Nr. V-998).





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

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- enforcing the national regulations that concern the kitchen, the food products and training of personnel;
 - menu preparation by nutritionist;
 - nutrition education.
2. On the other hand, the role of the Municipality involves:
 - choosing the type of service provided;
 - managing the investment and resources programme;
 - the tender process;
 - supervising the food management of the food service.
 3. The School district office has the task of:
 - training the service personnel;
 - drafting nutrition charts;
 - verifying and managing the quality control of foodstuffs, local and on equipment.
 4. Families pay an annual fee to cover part of the costs of the food provided at educational institutions - the amount varies depending the annual budget of the Municipality. Also, a copy of the menu is sent to all families and also posted in the dining halls of the individual school buildings.
 5. Finally teachers must to be involved in the activities related to good practices on healthy friendly nutrition of children.

In the **Municipality of Montespertoli** the meals are provided by the CIR food & beverage cooperative, prepared in the kitchen of "Don Milani" kindergarten and distributed to other schools. The menu includes a summer and a winter menu and it is arranged on a four-week rotation. The menu is created through the co-operation of the Commission Mensa Administration Representatives, teachers and parents and a nutritionist.

There has been a food programme in place in the **Municipality of Montegranaro** since 2001. In January 2016 the Municipality adopted a new decision for food and canteens. More than 150 meals are served daily across the six schools. 92% of the meals are prepared on site with 69% of them including organic food. The nutritionist advises and monitors the service, but works closely with the Canteen Commissions comprised of parents and school canteen staff.

In general, meals are composed of 2 dishes at least; plus a side-dish and fresh fruit, desert or yoghurt. About half the school also provides a snack. Organic food is promoted at educational institutions. In 2008 there were 791 school canteens using organic ingredients, meaning that over 1 million dishes containing at least some organic ingredients are served every day in kindergartens and primary schools. There are various approaches and degrees of commitment: some schools





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

propose a complete organic menu, some other just a small amount of organic products, others just one organic dish and some schools still has not adopted any kind of organic food in their canteen.

There are a number of legal and regulatory acts which define the requirements for access to healthy nutrition, as well as the quality and safety of the foods which are provided by educational institutions in Italy.

In particular, when producing a menu, the nutritionist takes the following into consideration:

- The Italian Guidelines for School Catering. – recommendations are made in terms of the
 - energy requirements and energy composition of the food (percentage fat, protein, carbohydrate)
 - amount of fiber, sugar, iron, calcium
 - the frequency of consumption of fruit and vegetables, high-protein foods, dairy products, cereals, starchy food
 - The rotation principle - foods are rotated every 4-5 weeks to ensure a more varied diet
 - Seasonality of foods – seasonal products are to be used whenever possible
 - Portion size - the exact portion depending on the age of the child is determined
 - Culture and religion - for instance offering vegetarian alternatives
 - Food Allergies and Intolerances - special menus are made available whenever necessary

Once conceived by the nutritionist, the menu is approved by both the Municipality and the school internal commission.

In Turkey

The students in state schools are not served snacks or meals in the midmorning or afternoon. instead, they bring snacks from home. At the lunch time, children eat bag lunch or buy food, often with low nutritional value, from the school canteen²².

The main provision of healthy food to educational institutions is through the implementation of nutrition programs and initiatives, some that help create nutritional awareness and develop healthy nutrition habits in primary school students:

- Akıllı Çocuk Sofrası - Smart Children at the Dining Table
- Şarkılarla Besleniyorum - I am Nourished with Songs
- Okulumda Besleniyorum - I am Nourished at School

²² SORMAZ, Ü. 2013 MEHMET AKIF ERSOY ÜNİVERSİTESİ EĞİTİM BİLİMLERİ ENSTİTÜSÜ DERGİSİ OKUL BESLENME EĞİTİMİ PROGRAMI 7 SAYI / İSSİF: 3 2013 GÜZ (S. 36-48).





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Beslenebilirim - I can nourish myself
- Yemekte Denge - Balance at Mealtime
- İlköğretim Okullarında Beslenme Eğitimi - Education on Nutrition at Primary School
- Beslenme Dostu Okul - Nutrition Friendly School

The food sold at school are regulated by Bulletin No. 0.757.378-10.06E2852893 / 10.03.2016 from National Ministry which details the inspection of the food sold in school canteens and food premises in educational institutions regarding the hygiene.

The criteria for the food sold in school canteens, cafeterias, kiosks, also including the refectories of educational institutions with dormitories are as follows:

1. Foods not approved to be sold at educational institutions:

- Energy drinks, high sugar content and caffeine beverages
- High-fat foods and snacks
- High sugar content foods and snacks

2. Foods approved to be sold at educational institutions:

- Raw and seasonal fruits, salads and freshly squeezed juice
- Dried fruits without added sugar
- Raw, unsalted and unflavored nuts
- Drinking water without sugar and sweetening agent
- Milk, yoghurt, cheese, ayran (fermented milk)
- Boiled eggs
- Breads and sandwiches with fresh ingredients
- Sugar free chewing gums

In Spain

Child nutrition at national level in kindergartens and schools of Spain are regulated, mainly, by the **Consensus Document On Food In Educational Centres**²³ - it was approved by the **Spanish Health System's Inter-Territorial Board** on the 21 July 2010 and is for use in any kind of educational centre where food is supplied to educational institutions. Other national, regional and local legislation, concerning consumption for example, should also be applied.

This is a comprehensive document that has as a goal for the Spanish educational system to help children to establish a healthy lifestyle and to take part in physical exercise and sport. Provision is

²³ Available at:

http://www.aecosan.mscsj.gob.es/AECOSAN/docs/documentos/nutricion/Nuevo_Codigo_PAOS_2012_ingles.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

also made for public administrative bodies to develop alternative options for deprived individuals, groups and geographical locations and provide financial resources and support for services such as free school transport services, and where required, a dining hall and boarding school services.

More specifically, the **Consensus Document On Food In Educational Centres** outlines:

- Recommended frequencies of different food groups, nutritional daily intake values, daily energy intake and the proportion of energy that a lunchtime meal should provide and portion sizes
- Proportion of space per pupil in the dining area
- Duration of mealtimes
- Regulation of school meals (regulated by health professionals²⁴ with accredited training in human and dietary nutrition)
- Qualifications and training of the lunchtime supervisory staff
- Detailed description of hygiene and health aspects, and the way that they are managed, organised and implemented
- Recommendations regarding nutritional aspects which encourage healthy eating habits and which pupils can take with them through life
- Tending to special dietary requirements
- Criteria for offering healthy options in vending machines, canteens and kiosks in educational facilities

Concerning Inspection and follow-up, health authorities of each region are to ensure that all the nutritional criteria outlined in this document are adhered to with regard to the variety and food intake frequency provided by school meal plans, and with regard to the foods on offer in vending machines, canteens and kiosks in educational centres.

The conditions of school and kindergarten nutrition are defined and controlled by the national and local governments and they should attend to all the general and specific regulations concerning food safety, health, etc.

Take as an example the **Conselleria de Educaci3n** of Valencia.^{25 iii} Only the tendering companies that meet the requirements will be approved for the provision of school dining service through one of the following types of service contracts:

²⁴ LEY 44/2003, de 21 de noviembre, de ordenaci3n de las profesiones sanitarias. (BOE No. 280 dated 22/11/2003).

Available at: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2003-21340

²⁵ Diari Oficial n3m. 6283 de 07.06.2010) Ref. Base Datos 006438/2010

Available at: http://www.dogv.gva.es/m/portal/ficha_disposicion.jsp?id=26&sig=006438/2010&L=1&url_lista=





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

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- a) The supply and preparation of meals in the educational center;
 - b) Supplying meals made in central kitchens and transported to the educational center.

To win a contract, the company must be registered and have the corresponding sanitary and business authorizations and liability insurance. The companies are obliged to comply with the current legislation on collective canteens, sanitary measures and labor laws. All the dining service staff must be in possession of a food handler certificate.

Local authorities also undertake the supervision and inspection of labor and health matters concerning the operation of school canteens.

“Article 40.7 of Law 17/2011 on food safety and nutrition states: Kindergartens and schools are protected publicity-free zones. Campaigns for the promotion of diet, nutritional education or the promotion of sport or physical activity in schools and the sponsorship of teams and sports events in the academic environment shall be previously authorised by the competent educational authorities, in accordance with the criteria established by the health authorities with the objective of fostering healthy exercise and nutritional habits and preventing obesity.

The **NAOS Strategy (Nutrition, Physical Activity and Prevention of Obesity)** is the response from the **Ministry of Health, Social Services and Equality** from the Government of Spain to the problem of obesity. Coordinated by the **Spanish Agency for Consumer Affairs, Food Safety and Nutrition (AECOSAN)**, the NAOS Strategy aims to make the population aware of the problem that obesity represents for health, to promote health through healthy eating habits and physical exercise, and to bring together and promote those public or private initiatives that help to ensure that the public, in particular children and adolescents, adopt these healthy eating habits throughout their life.”²⁶

To improve the quality of school food, an agreement has been drawn up with leading businesses from the catering industry, belonging to the **Spanish Federation of Associations Given to Social Catering (FEADRS)**. These businesses undertake to:

- Not use oils rich in saturated fats (palm oil, saw palmetto and coconut) or transfatty acids when frying, replacing these oils with other healthier oils.
- Use iodized salt in those areas known to have an iodine deficiency, as indicated by the Health Authorities.

²⁶ Criteria for authorising campaigns for food promotion, nutritional education or the promotion of sport or physical activity in kindergartens and schools, with the aim of fostering healthy eating habits, encouraging physical activity and preventing obesity. Edited by: Ministry of Health, Social Services and Equality. Spanish Agency for Consumer Affairs, Food Safety and Nutrition, 2015 NIPO: 690-15-004-9 http://www.aecosan.mscsj.gob.es/AECOSAN/docs/documentos/nutricion/educanaos/English_DOCCRITERIO.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Carry out children’s workshops to foster the educational measures aimed at the promotion of a varied and balanced diet.²⁷

School canteens must comply with the requirements established in the European, state and autonomous regulations in force in hygiene, health and food. Moreover, for hygienic-sanitary and food safety reasons, the consumption of food that has not been supplied by the contractor will not be allowed.

According to the current regulations, the consumption of alcoholic beverages and tobacco is prohibited in schools and, therefore, in the facilities where the school dining service is provided.

In Bulgaria

The conditions of school and kindergarten nutrition are defined and controlled by the local governments. For each budgetary year the Ministerial Council of the Republic of Bulgaria defines the amounts for supporting the nutrition of one child and one student.

For the children in kindergartens and schools with whole day organization of the learning process the local authorities provide lunches.

The foods provided in kindergartens, school cantinas and the retail sites are delivered by providers that meet the hygiene and/or the veterinary and sanitary requirements, which they produce on site where possible. Kindergartens which build kitchen blocks, meet the requirements of Regulation № 5 as of 2006 for food hygiene, the location of the premises where foods are produced, cooked or processed allows good hygiene, including protection of foods from contamination risks between and during the operations. These sites also need to have introduced a good practices for production and trade with foods and a system for analysis of threats and a system for food safety.

When the construction of a kitchen block is impossible, the food is delivered by an external provider to dedicated offices for food portioning, which have to meet the above mentioned requirements of Regulation №5 from 2006.

The food in kindergartens is prepared in accordance with the requirements of Regulation № 6 from 2011 for healthy nutrition of children at the age of 3 to 7. The weekly menu is developed with the participation of a medical specialist and/or food technologist. Only foods which meet the requirements for safety and quality according to the Law on foods are allowed at kindergartens and schools. The foods are accompanied by documents proving their safety. School cantina

²⁷ Spanish strategy for nutrition, physical activity and prevention of obesity, The NAOS Strategy, (pag. 28) Ministerio de sanidade y consumo - Agencia española de seguridad alimentaria. http://www.aecosan.mscsj.gob.es/AECOSAN/docs/documentos/nutricion/NAOS_Strategy.pdf





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

nutrition is procured by tender. In state schools, the tender is conducted by the school itself, while in municipal schools it is organized by the respective municipality.

There are a number of **legal and regulatory acts** which define the requirements for access to healthy nutrition, as well as the quality and safety of the foods which are provided by kindergartens and schools in Bulgaria. The law on foods defines:

1. Requirements to the foods, the measures and the hygiene and safety conditions, the packaging, the etiquettes, the presentation and promotion;
2. Requirements towards all the stages of production, processing and distribution of foods;
3. The terms and conditions for production and trade with foods
4. The rights and obligations of the persons, who produce or trade in foods;
5. The rules for implementing official control, including verifying the regulatory requirements;

The healthy nutrition of students age 3 to 7 is ensured by providing full and varied food, daily consumption of vegetables and fruits, sufficient intake of milk, dairy products and other protein rich foods, increased consumption of whole-grain foods, limiting the intake of fats, sugar and salt and the intake of sufficient liquids. At least one expert with qualifications or education in the sphere of food technologies should participate in the process of preparing food for children. In kindergartens where the children stay until the evening, the food schedule includes four meals. More specifically, school canteens, buffets and automats should offer only the following drinks:

1. Bottled natural mineral waters, spring waters;
2. National 100 % fruit or vegetable juices;
3. Fruit and fruit-vegetable nectars, which do not contain more than 20% mono and disaccharides from the whole mass of the product;
4. Milk, dairy and sour dairy drinks with fat limited to a maximum of 2%;
5. Fruit and herbal tea;
6. Hot chocolate.

School canteens, buffets and automats do not provide:

1. fried potatoes and fried cereals;
2. extruded cereals with added fat;
3. fried nuts;
4. fried pastry;
5. sweet and chocolaty products, except chocolate;
7. sweet products with high content of fat and sugar;
8. dry soups and dry bullions.

Buffets and automats can provide sandwiches, pastry, fruits, vegetables, cookies, dairy or dairy-fruit or cereal or cereal fruit desserts and chocolate.





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

The section below summarizes issues and challenges that are encountered in the aforementioned countries.

Issues identified on a local, regional or national basis

Every partner country (namely Lithuania, Greece, Italy, Turkey, Bulgaria, Spain) has different issues that are obstacles to providing safe and nutritious food to children at educational institutions. Although the problem areas are varied, they mostly relate the slow or lack of implementation of laws and regulations, rather than inadequate or inappropriate legislation. Following is a summary of the most crucial challenges that each partner country is facing.

Issues identified in Greece

- The total absence of nutritionists in the decision making process concerning food and nutrition in nurseries, kindergartens, and primary schools. Decisions are made by individuals who lack the expertise to effectively advice on the development and implementation of nutrition policy, regulations and guidelines.
- In kindergartens, nutrition is based on the provision of general guidelines, which are open open to interpretation by parents and teachers alike. There is also no systematic implementation of follow-up of these guidelines.
- The bidding process to supply food and food products to play schools is based on the criteria set by each municipality and most often the tender is given to the bidder with the lowest price and not the most nutritious food.

Issues identified in Lithuania

- Parents having poor knowledge about healthy nutrition are not involved in learning process.
- Vegetarian meals are at times prescribed due to religious, ethnic, health or other reasons not recommended for children, but these do not usually meet the recommended daily nutrient and energy intake for children.
- Laws and regulations regarding for healthy nutrition are implemented too slowly, meaning that school menus are still not meeting the requirements: refined wheat flour, potatoes and meat dishes still dominate; healthy snack options are limited; white bread and greasy sauces are still included in menus; there is a distinct lack of fiber.

Issues identified in Italy

- Since Italy is a multicultural nation the presence of a large percentage of foreign pupils in our means different nutrition habits related to socio-economics, religion and tradition. Many of these children are at risk of bad-nutrition both for the failure in mixing religious food habits with Italian food and for choosing cheap and junk food. Meeting the nutrition



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

needs, while respecting a number of religious and cultural food restrictions, is a challenge that needs to be dealt with.

Issues identified in Turkey

- The biggest issue in Turkey is providing children at educational institutions with safe food - nearly 77 thousands of cases related to unsafe food were reported in 2000. Food safety management legislations was enacted in Turkey in the last decade, but the implementation of these systems is very slow and there is still a great need for information and publications relating to these systems.

Issues identified in Bulgaria

- The quality of the foods is not fully covered by regulations, which results in producers focusing mainly on covering the safety requirements and neglecting the quality of the food.
- Access to unhealthy packaged foods in the buffets and retail shops at educational institutions - forbidden foods such as jelly bonbons, lollipops, chips, juices with preservatives and colorants and more are still widely available to students.
- Healthy lifestyle choices is not sufficiently discussed at home, so the schools are the only places children are educated and informed.
- Headmasters do not have the complete freedom to select the provider, which is going to deliver the food for the students.
- Parents do not participate in the decision making process regarding the food sold and provided at educational institutions.
- The tender process is conducted without publicity and transparency, as well as without free competition and equality. Bureaucracy is also a major obstacle.
- There is a discrepancy between the existing products on the market and the regulatory requirements concerning the menus and the food in school cantina and buffets making it sometimes impractical and impossible for providers to meet all the laws and regulations.

Issues identified in Spain

- Even if the system establishing and governing the rules for preparation and delivery of food to children in Spain does seem to be well functioning, problems of other nature exist, related mainly to the established sense of taste of those students who reject greens, vegetables, fruits or fish and refuse to try them, and who at the same time want more dairy products, meats and processed foods and find ways to obtain those.
- To go even further, sometimes families themselves sabotage the formation of healthy eating habits, because they refuse collaboration on occasions and fail to encourage the consumption of fruits and vegetables among the students.



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

3. GOOD PRACTICES

This point in the transnational report will go through good practices shared by the partners in their national reports depending on their scope – local, regional, national and international – and will be closed with a list of pieces of good approaches to preparing and providing food and sensitizing children on the importance of nutrition for their healthy growth.

Local practices

A number of interesting and inspiring local practices have been shared by the partner countries, however, the one that made the strongest impression is a **Greek** practice called “**An Alternative School Canteen**” implemented in a primary school in the Greek town of Oropos, where students, parents and teachers together created a cafeteria where students buy only handmade snacks. Every week, a different group of children takes responsibility for the running of the canteen and together with their parents, prepares all the food and food products to be sold in the canteen that particular week. This is an excellent approach for bringing the students, who normally learn about the benefits of good nutrition from books, to learn through the canteen how even the most simple changes in their daily lives, can improve their physical condition, health and energy level. For more details, visit the Greek national report.

Health friendly nutrition has been promoted locally also in **Italy**, through “A scuola con la zucca!” project of IC Montelupo Fiorentino (Florence), which included experimentation with pumpkins at the school canteen together with educational and training activities with families and initiatives in the classrooms with pupils to encourage healthy nutrition.

The **Lithuanian** national report was particularly abundant in local practices, which is a clear proof of the importance, which Lithuanians put on healthy nutrition of the society in general and children in particular. The educational institutions involved in the project from Lithuania have shared a great number of good practices for forming and improving healthy lifestyle attitude and skills, implemented by Smilgių gymnasium in Panevėžys (project “Move strenuously - be healthy”), Old Trakai kindergarten, Trakai district (programme “Discovering the World”, according to which the last week of every month is assigned for education on healthy lifestyle, introducing lessons regarding healthy lifestyle, benefits of consuming fruits and vegetables, etc.), Kaunas Waldorf kindergarten „Šaltinėlis” with their project “I will grow healthy and strong”, Kaunas Environmental Center with their annual initiative for a healthy lifestyle and nutrition, called “Eating apples makes me stronger” with the participation of Kaunas kindergarten “Šviesa”, Kaunas kindergarten “Aušrinė” and their participation in the social project “Health friendly”²⁸. To continue with the good examples, the “European day of healthy food” is celebrated widely in Lithuania, including in Vilnius kindergarten “Linelis” and Piliunos gymnasium. The deep connection, which Lithuanian

²⁸ Socialinės atsakomybės projektas „Sveikatai palankūs“. <http://sveikosmitybosstandartas.lt/sveikatai-palankus/> [accessed: 02 2017]



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

educational establishments strive to create between children, nature and all things natural is visible in the practice shared by Private kindergarten "Vaikystės lobiai", located in Kaunas district, which organizes projects "Ecologic flowerbed", "Green windowsill", "In grandpa's garden" and "In grandma's kitchen".

A valuable experience shared, which demonstrates the presence of a long term vision and sustainable intentions for regular health friendly nutrition focused actions is the Association „Sveikatos želmenėliai“ established by seven kindergartens in the Trakai district. This association propagates the principles of healthy lifestyle among teachers, parents and society in general, improving teachers' qualifications and sharing work experiences in the area of healthy lifestyle education at kindergartens²⁹. Teachers prepare themes related to the topic of healthy nutrition, healthy lifestyle and teach children to take good care of their own health. The institution hosts a flowerbed inside its territory, where various herbs are grown: lemon balm, sage, tarragon, lavender.

Regional practices

The national reports offer also a variety of regional practices. Thus for example the „**Let us be healthy**“ **Bulgarian** campaign implemented by Image Consult Ltd. in partnership with the Municipality of Plovdiv has been running in all kindergartens on the territory of the municipality over a period of 6 years now. The campaign is particularly efficient and sustainable in its attempts at improving the contemporary training programmes, elaborated for the youngest children, among which - the programme for healthy eating. With the help of animators, the children get to know the main food groups and the necessity to eat nutritiously and to consume various foods. During the last 5 years, within the framework of the “Let us be healthy” campaign, have been carried out more than 850 performances before 76 000 children on the need for varied nutrition, consumption of fruits and vegetables and doing regular sports³⁰.

In **Italy** a practice worth mentioning is the “**A scuola con Gusto**” project for the territory of Tuscany, which aims to educate children at balanced and healthy habits through the use various training activities relying on the different senses (sight, smell, touch, taste). The project started in school year 2007/2008 by the good will of the Commission and the Mensa AUSL12 of Versilia and under the patronage of the Italian Ministry of Education, University and Research.

We need also to take into consideration a **Greek “School Meal”** programme of the Ministry of Education and the Agricultural University of Athens, which was initiated due to other reasons (provision of lunches for school students as social support to families with low socioeconomic

²⁹ Sveikatos želmenėliai. Apie asociaciją. Prieiga per internetą: <http://www.szemeneliai.lt/apie-mus> [accessed: 02.2017].

³⁰ The sixth issue of the campaign on healthy nutrition and sport “Let us be healthy” started. *Municipality of Plovdiv*. <http://www.plovdiv.bg/стартира-шестото-издание-на-кампания/>, [accessed: 12.2016]





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

status in the region of Attica) but which is quite to the point considering that the food provided in the “School meals” is nutrition and following the rules for preparation and provision of a healthy Mediterranean diet.

A substantial practice, which is also important to share here, is the examination of the quality of menus in schools and canteens initiated by the **Spanish** Conselleria of Health, aiming at ensuring the nutritional quality of the food served to children in schools in the Region of Valencia. This program will involve professionals with training in nutrition and diets, inspectors on the official control of school canteens, as well as trained personnel to handle information related to the supply of food and beverages. In addition, it will designate central service personnel such as Public Health Centers (CSP), for the evaluation of the food supply of the menus of a school month.³¹

National practices

Among the most far reaching national practices, which are worth including in this transnational report are the **Italian “Saltainbocca”** and the **Greek “DIATROFI Nutrition Initiative”**.

SALTAinBOCCA is an initiative addressed to Italian kindergartens and primary schools, born in collaboration with the Italian Federation of Paediatricians (FIMP). The project aims to provide children and parents the information they need for a healthy diet and proper physical activity thus trying to reverse the trend of overweight and obesity in childhood constantly increasing in Italy.

SALTAinBOCCA has been presented the 11 October 2016 at the Press Room of the Chamber of Deputies obtaining the patronage of the latter and the Senate. So far the initiative has been joined by 213 schools each of them receiving the SALTAinBOCCA TOOLKIT, containing: 1 book with information and tips to promote a health friendly life style, 1 board game with dice and pieces, which allows children to learn rules of a balanced and healthy life style, 1 poster in each class, canteen and conference room, 25 postcards for parents of children with invitation to know the project in the classroom and to participate to a contest them dedicated.

The Greek DIATROFI Nutrition Initiative³² is run by the Institute PROLEPSIS since 2010 and has been providing free meals to students of low socio-economic background. In the 2015-2016 school year 247 Greek schools participated in the program, with 20 528 children across the country benefiting. Without exception, the school children participating in the program receive a daily free healthy meal, especially developed for their dietary needs. Furthermore, through specially designed training material, which includes short messages and tips on healthy eating, and the organization of information events and activities for parents and children, the Nutrition Program promotes healthy eating by encouraging students and their families to adopt healthy eating habits that they will follow throughout life.

³¹ <http://www.levante-emv.com/comunitat-valenciana/2016/10/04/salud-publica-revisara-menues-escolares/1474983.html>

³² <http://diatrofi.prolepsis.gr/>





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

Lithuania also boasts a Kaunas institution, dedicated on consulting educational institutions throughout the country on healthy nutrition and forming children's menus - **PI „Sveikatai palankus“**. In 2016 PI "Sveikatai palankus" initiated the national social initiative project "Health friendly education institution"³³, which aims to present the peculiarities of children nutrition to the community and the responsible institutions and to initiate necessary changes.

Interesting to mention are also:

- the Bulgarian project "Culinary recess – Manjitsu" initiated by Lidl Bulgaria, which aims to introduce to children from 1st to 4th grade in a fun and interesting way with major topics on what a healthy and balanced diet is as well as to motivate them to share what they learn at home and to join more actively the process of food preparation together with their parents³⁴.

- the Greek "Healthy Children, Healthy Planet" initiative, which commenced in 2016, organized by the WWF Hellas in collaboration with the Harokopeio University of Athens and educating children in making healthy and 'green' food choices³⁵.

International practices

Going one step further and getting closer to our HealthEDU initiative is the „Eat responsibly! An action-oriented global learning program for EYD 2015 and beyond“ project, financed under the EYD 2015 - 2020 /DCI-NSAED/2014/53/, coordinated by a Bulgarian institution – Blue Flag – and supported by partners from the Czech Republic, Slovakia, Slovenia, Poland, Latvia, Croatia and Malta. In addition to the details shared in the BG national report, it is worthy to get acquainted with the activities, which take place locally in partnering schools in Bulgaria. For example in Secondary school "St. St. Kiril and Methodius" Kozloduj³⁶ the project committee is doing an evaluation of canteen menus and foods available in the buffet and proposing changes, supported also by activities for increasing the children's awareness on the topic of responsible nutrition.

We can now proudly consider HealthEDU as a good international practice, because the educational activities elaborated by the partners for the World Food Day, World Water Day and World Health Day have been tested by a great number of schools and kindergartens in the involved countries. The feedback from the users demonstrates an immediate change in the attitude towards the issue of healthy nutrition from the children. Parents and teachers have been reporting excellent results – for example children speaking of how the body functions when it is fed with good and bad foods, children refusing to eat ready packaged foods, children having more vegetables and fruits than before and children accepting to taste new things and try new recipes. The project web-site -<http://healthedu.emundus.eu/> - and the facebook page dedicated to our

³³ <http://sveikataipalankus.lt/sveikatai-palankiu-ugdymo-istaigu-tinklas/> [accessed: 01.2017]

³⁴ For our tomorrow: Culinary recess. LIDL. Accessible from: <http://www.lidl.bg/bg/8689.htm>, 05.12.2016

³⁵ http://kalyterizoi.gr/sxoleia/action?field_topic_tid=13

³⁶ https://www.facebook.com/groups/1792793747713228/?ref=aymthomepage_panel





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

activities -<https://www.facebook.com/healtheducommunity/?fref=ts> – offer an abundance of examples of educational activities with the children and share images/videos and feedback from the participating educational establishments.

Summary of good practice activities

At the end of this section, as promised, we are including an excellent selection of everyday good practice activities, summarized by the Spanish partner and further enriched with other good ideas, as proposals for adoption by schools and kindergartens:

1. Food and menus:

- Offer menus that are suitably adapted for students that suffer food allergies and intolerances.
- Include vegetarian menus as well as menus that take cultural diversity into account.
- Offer varied and balanced diets in their menus and include the presence of fruits and vegetables. Make fruit available as a lunchtime dessert and as an afternoon snack.
- Offer salad vegetables in a buffet so that students can prepare their salads to their own liking and take more as they like. Include cheerful and diverse ingredients (tomato, cucumber, lettuce, corn, apple, tangerine, cheese ...).
- Whenever possible provide ecologically grown vegetables with certain dishes along with seasonal fruits.
- Use olive or other vegetable oil (no hydrogenated oils) for cooking and for salad dressing.
- Replace fried foods with oven-cooked dishes.
- Avoid fried and precooked meals.
- Allow parents and children to participate in organizing home-made snacks and juices (see the “Alternative School Canteen” local practice from Greece) on rotation.

2. Professionals:

- Make sure that the schools menus are prepared by pediatricians or nutritionists and review them periodically, at least once a year.
- Send the menu to parents, and in case of infant schools, inform the parents how their child has eaten every day.

3. Food providers.

- Food providers should be supplied by local supermarkets with fresh produce.
- The supply of organically grown products is provided by local associations.

4. Initiatives to promote healthy habits.

4.1. Sweets, juices and bakery products in lunches and snacks:

- Encourage children to bring fruit for the morning break.



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Encourage children not to bring sweets, juices and industrial pastries or such products are simply prohibited.
- Encourage the association of parents to prepare snacks that can be bought for a symbolic price.

4.2. The school garden:

- Vegetables and greens from the school garden are brought into the classroom and tasted. When children themselves grow vegetables and fruits they are often motivated to try them and to like them.

4.3. Seasonal celebrations:

- Perform tastings of typical seasonal foods during different holidays.
- In general these celebrations take into account the ingredients available in each locality in typical and traditional foods.

4.4. Classes on healthy nutrition, talks, workshops and other events:

- Use the HealthEDU activities proposals.
- Organize classes focused on the relationship between health and food.
- Include also the parents.
- Make carnival costumes based on food themes.

4.5. Personal hygiene and sports habits:

- Strongly encourage the habit of handwashing before snacks and meals.
- Strongly encourage teeth brushing in the school itself.
- Give the children some time to relax after the meals, before they continue with their schooling and the return to the classroom.
- Request that children bring toiletries and towels from home and that t-shirts are changed after physical education and sports. Encourage the practice of different sports that can later be played during break times.

4.6. Water consumption:

- Offer free access to water to pupils and raise their awareness on the importance of drinking sufficient amounts of water during each day.

4.7. The food-related environment:

- Pay attention to all aspects of the mealtime environment in order to make it as pleasant as possible.
- Encourage food sharing during the morning and afternoon breaks, especially in the case of fruits brought from home.





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

4. IDENTIFIED PROBLEMS AT NATIONAL LEVELS / INITIATIVES THAT SHOULD BE IMPLEMENTED (I.E. NON-FORMAL EDUCATION INITIATIVES) AND CONCLUSIONS

There are a number of key issues that need to be addressed and initiatives that should be taken in order to improve the nutrition, diet and health of young children at national levels. Below we are referring to the identified problems per country.

In Greece

Though the government has produced policies and guideline regarding the diet, nutrition and health of children, there is little evidence of these being implemented in an organized and comprehensive manner.

In order to most effectively and efficiently improve the nutrition, diet and health of young children in Greece, the following issues require urgent attention:

- The lack of the presence and involvement of nutritionists in the decision making processes regarding food and nutrition in nurseries, kindergartens and primary schools.
- The lack of food and meals at kindergartens and primary schools.
- The lack of a comprehensive, well-organized and well-developed nutrition policy for the schools.
- The lack of compulsory nutrition education in the school curriculum

In Lithuania

Non-formal education is an effective method of implementing new skills and competences as its purpose is to meet the needs, which ensure good quality of life for now and for the future. One of the main goals of National Education Strategy for the year 2013-2022 is in fact to develop non-formal education among children and young people³⁷.

However, from legal and regulatory perspective, non-formal education situation in Lithuania still requires improvement. Effective institutional cooperation would ensure higher quality and development for non-formal education. In respect of non-formal education at the institutional level, it can be concluded that the situation is good enough, as a relatively high level between relative institutions is maintained by the efforts of administration of individual educational institutions, teachers and parents.

More specifically, the issues that need to be addressed include:

³⁷ Paurienė I. Neformalinio ugdymo aktualijos. Švietimo problemos analizė. 2012 m.





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Ineffective organization, insufficient availability and insufficient funding - the major problems of non-formal education in Lithuania.
- Monitoring data of non-formal education students is insufficient to make reasonable decisions. Accurate and detailed statistics of non-formal education participants, service providers and assigned funds, would allow the Ministry of Education organize the purposeful development of this education system³⁸. The problem of inaccurate accounting system in Siauliai and Klaipeda municipalities has been solved by creating electronic certificate for students. This could be a good example for other municipalities (same source – footnote 38).
- Municipalities failed to use the amount of student's basket of funds, assigned for non-formal education, purposefully. It was found, that municipalities rearranged provided funds and distributed less than it was planned for non-formal education specifically (same source – footnote 38).
- The material base and educational environment of non-formal education institutions does not always meet the requirements and expectations of the students. The quality of non-formal education is depreciated by unattractive material base and educational environment - an outdated, low-quality equipment, abandoned and unheated classes (same source – footnote 38).

In Italy

- Many of the difficulties faced in the catering services can be overcome with a strict collaboration of different parties involved (parents, teachers and politics). What is important is a supportive local and political framework. The support and good-will of parents, families, governors and local politicians is an important foundation for the success of any school catering service.
- It is important to accompany any modifications to catering policy with education and awareness raising activities in order to ensure the successful uptake of the new innovative solution. This is equally true for staff, pupils, and the wider local community. Also, change does not need to be on a grand scale – an incremental approach to eco-innovation is often a very effective way of successfully introducing a culture of sustainability while maintaining the support of key stakeholders.
- Buying local food does not necessarily equate to buying sustainably - freshness, seasonality and organic agriculture are more useful criteria.

³⁸ Valstybinio audito ataskaita. Kaip organizuojamas neformalusis mokinių švietimas. 2015 m. vasario 4 d. Nr. VA-P-50-3-1





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

In Turkey

The nutrition of children in Turkey has significantly improved as a result of policies promoting breastfeeding and consuming iodized salt as well as economic development, urbanization, having a smaller family and the social changes. However, a significant percent of children in Turkey are still malnourished and suffer health problems or risks due to micronutrient deficiencies such as iron and vitamin deficiencies - social services and social protection systems are still incapable to eradicate the child poverty and in some cases the parents and the nursemaids are ignorant of diet and nutrition.

Malnutrition shows substantial variations between regions, and between urban and rural areas, which is unsurprising given the distribution of poverty in the country. As such, efforts to improve health and nutrition outcomes in difficult locations will be much more meaningful if they are made in the context of policies designed to overcome the wider economic and socioeconomic disadvantages of the population³⁹.

Specific recommendations to support and improve healthy and encourage the health and healthy eating habits of school children include:

- The dishes or items in the school menus should be limited to 3 or maximum 4, which in some schools currently may contain up to 6-8 open buffet dishes or items;
- Menus must be prepared considering the healthy nutrition principles and nutritional needs instead of the students' personal preferences;
- Menus mainly must contain a balanced amount of vegetables, fruits, dried legumes and dairy products and include desserts only once a week;
- Seasonal fruits should be chosen over canned or packed fruit juice;
- Fried products (potato, sausage, fish, pastry), fizzy drinks, mayonnaise must be avoided;
- Menus should not contain repeated dishes or ingredients;
- The snacks between the meals mainly should contain fruits;
- School canteens should not sell the foods rich in fat such as crisps, fried potato, hamburger and the drinks rich in caffeine such as cokes, energy drinks and ice tea;
- School canteens mainly should sell fresh fruit, salad, sliced whole wheat bread, cheese, varieties of yoghurt, ayran and milk;
- Vendors around the school selling insanitary and hygienically unsafe food such as buns, wafers, sweets, confectionery products and burgers must not be banned;
- During the lunch and snack times the teachers should have their lunch with the students;

³⁹ GÖKÇAY, G. VE GARIPAĞAOĞLU, M. ÇOCUKLUK VE ERGENLİK DÖNEMİNDE BESLENME. İSTANBUL: SAGA YAYINLARI. 2007





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Refectories should be well decorated and attractive for the students – sufficient interior illumination; posters promoting the healthy nutrition should be placed on the walls and there should be background music;
- The school should have proper and adequate area for physical activities;
- The lessons, courses, breaks between the lessons, and even the programs organized after the school should contain more physical activities;
- Close cooperation with the families should be established.

In Bulgaria

The latest research concerning the eating habits in Bulgaria demonstrate worrying data, which define the eating status of Bulgarian children as damaged and unbalanced. As a result, the Ministry of Health and the Ministry of Agriculture and Food collaborate to issue a number of regulatory documents, establishing health, safety and quality standards for the food served in schools and kindergartens.

The implementation and execution of this legislation, however, is not without its problems. Decision makers and controlling bodies are working to overcome the inconsistencies and loopholes to ensure the provision of healthy nutrition of children at kindergartens and schools. Various non-governmental organizations and local authorities implement various campaigns and projects focused on sustainable healthy nutrition of children. The administrations of Bulgarian educational institutions are open to such initiatives, in this way supporting the creation of healthy eating habits and a positive attitude towards healthy foods.

In Spain

The issues that are currently an obstacle to children taking up healthy eating habits and living a healthy lifestyle include:

- Children are not accustomed to the taste and flavours of some of the healthy foods served at schools (particularly some greens, vegetables, fish and even fruits) as these foods are not common at home. As a result, children are unwilling to try them and at the same time keep requesting more dairy products, meats and processed foods.
- Lack of interest and cooperation from some families.
- Fruits and vegetables are not attractive to students, making it hard to encourage them to consume greater amounts and a greater variety.

The above mentioned issues can be addressed by implementing the following:





Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

- Nutrition projects that both the kids and their parents can take part in. This will help students learn more about the importance of healthy eating in their lives and to adopt healthy habits through experiential techniques, with the contribution of both nutritionists and teachers.
- All schools should be able to provide cooked lunch, with a very carefully designed dietary plan developed by nutritionists in order to meet the nutritional needs in terms of energy, macronutrients and micronutrients of young children.
- Free fruit and vegetables should be delivered to school kids, especially in the low-socio-economic regions. Whenever possible fruit should be made available at mealtimes and as snacks.
- Cooking classes should be regularly organized at schools by both chefs and nutritionists where the kids can have the opportunity to get in touch with the art of cooking, but always based on healthy foods, ingredients and cooking methods.
- Projects that bring together students and parents with the aim of triggering mechanisms towards understanding the value of a healthy lifestyle and reflecting upon good healthy habits.
- Having osmotic water purifiers available to improve the taste of the water
- Changing legal regulations that prohibit taking home-made foods being taken to school because they that are not labelled with their ingredients
- Organising regular informative talks by a nutritionist or pediatrician to families about healthy eating and healthy food alternatives for school age children

THROUGH SMALL ADJUSTMENTS IN THE SPECIFIC ACTIONS THAT ARE TAKEN, TOGETHER WITH THE PROPER CONSULTATION AND INVOLVEMENT OF A NUTRITIONIST, THE DIET, NUTRITION AND HEALTH OF YOUNG CHILDREN CAN BE SUBSTANTIALLY IMPROVED.

ADDITIONALLY, TO PROMOTE A HEALTHY LIFESTYLE IN GENERAL, SCHOOLS COULD ENCOURAGE FAMILY SPORTS ACTIVITIES SUCH AS PILATES, YOGA AND FITNESS THAT PARENTS CAN DO WITH THEIR CHILDREN.

This report introduced the national priorities and governmental policy in relation to nutrition in general and child nutrition specifically in six European countries, namely Greece, Lithuania, Bulgaria, Italy, Turkey and Spain. Key information were also provided on current practices in schools regarding nutrition and the choice of food products for consumption; good practices and important initiatives that are being carried out in the area of school nutrition and nutrition education in the 6 countries are also highlighted. Finally, the report summarizes and outlines the most pressing issues faced in terms of school nutrition and nutrition education together with suggestions to tackle these problems.

For a detailed presentation of the situation in each country please refer to each national analysis report. All the reports are available online at <http://healthedu.emundus.eu/analysis>



Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

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Innovative teaching methodology of health friendly nutrition development and practice in pre-primary and primary education (HealthEDU) Project ref. No.: 2016-1-LT01-KA201-023196

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