

EARLY LITERACY FOR ADOPTING A HEALTHY LIFESTYLE

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Abstract

The implications of a poor state of health among the teachable are of considerable proportions, having repercussions on school success. It is known that in children with a higher weight than normal, puberty starts faster, and the psychological changes involve significant deteriorations in terms of the emotional state (self-esteem, depression, social/school functioning), a fact that can lead to school dropout.

Now, more than ever, education is called to respond to current issues and to get involved in activities that develop cognitive, social and emotional skills, having a protective role on the child's health and the development of a healthy lifestyle. The existing policies, strategies, action plans and programs at European and national level that strive to raise awareness and to promote active and healthy lifestyles are the ideal framework for building a culture of health among the teachable.

Local initiatives in the educational sphere that aim to develop children's healthy behaviors regarding nutrition and active lifestyle, promoting cultural traditions in achieving well-being and preventing obesity and chronic diseases can become good practices and inspirational models at national and even international level. Thus, the "Granny's Health Bag Program. Healthy traditions for healthy children" a pilot project, awarded the first place in the "Healthy Lifestyle Cities" category by the European Commission at the EU Health Award ceremony, in the year 2021, in which I participated as a member of the implementation team, representing the foundation of the investigation and research conducted in the proposed work.

Keywords: *obesity, prevention, educational interventions, behavior modeling, educational program*

1. OBESITY - MAJOR PUBLIC HEALTH PROBLEM

We live in a world in constant motion, whose acceleration is given by an incomprehensible desire to be the promoters of all new things. In this rush, the unprecedented development of technology risks taking over our way of being, changing our once balanced lifestyle into a sedentary and totally wrong one.

Today we are facing an existential challenge for humanity. Obesity is a complex condition, having a component with multiple factors and is characterized by an increase in body weight due to adipose tissue. In the 21st century, it is increasingly proven that obesity represents an epidemic of modern civilization. The phenomenon is also confirmed by international statistics, which show concrete data that obesity kills more people than smoking.

Childhood obesity is increasing every year, especially in developing countries that are going through transitions. Romania is in the process of many socio-economic and political changes, being in search of an anchor. The influences of globalization have created non-traditional food trends, changing eating behaviors and lifestyles. The need to change the behaviors that are characteristic of an urban-industrial life, with implications on the lifestyle characterized as being hectic and sedentary and a diet rich in sugars, saturated fats and full of carbohydrates should be prompt. Interventions meant to improve the lives of future adults to prevent obesity and its medical implications, must be based on truthful information.

The population's awareness of all aspects related to the correct adoption of their own way of life, maintaining a good health and knowing the preventive actions can only be achieved through education. Education, states M. Ionescu, constitutes "a system of deliberate or non-deliberate actions and influences, explicit or implicit, which contribute to the formation, modeling, development and

transformation of the personality of individuals, regardless of age, in order to achieve certain goals, established in accordance with the current and perspective requirements of society". [2, p.82].

Learning institutions are the ideal place where health education programs can be initiated and carried out from an early age. The transmission of correct information from a scientific point of view, especially the development of healthy individual behaviors, and of attitudes that correspond to the educational ideal, should be aimed within the various activities carried out with preschoolers.

Unfortunately, the health of the population is increasingly precarious, a fact proved by numerous studies. If in 2014, according to WHO data, more than 1.9 billion adults over the age of 18 were overweight, and 42 million children under the age of 5 were overweight or obese, the situation we are in now is even more alarming.

Published in May 2022, the WHO European Regional Obesity Report 2022 presents alarming statistics on the burden of overweight and obesity in the WHO European Region. The numbers show that overweight and obesity rates have reached critical levels and "continue to rise", with almost 60% of European adults either overweight or obese, while overweight affects 8 in 10 children under 5 and 1 in 3 children of school age. [3]

According to the European Observatory on Health Systems and Policies and the Organization for Economic Cooperation and Development (OECD) data developed on the basis of qualitative and quantitative results published in OECD/European Observatory on Health Systems and Policies (2021), Romania Country Health Profile 2021, State of Health in the EU, the rate of self-reported obesity among adults in Romania is lower compared to EU member countries: only 11% of adults were obese in 2019, while the EU average was 16%, although over three quarters of Romanian adults reported that they do not eat at least one fruit per day and a similar proportion of them do not consume vegetables. Also, two fifths of Romanian adults (38%) declared that they carry out at least moderate activities weekly, and compared to the EU population, this is the lowest rate recorded in terms of physical activity.

If the table of data for adults is presented in this way, the rates of overweight and obesity among teenagers have increased constantly in the last two decades in Romania. Thus, one in five 15-year-olds weighs slightly above the average for teenagers in EU countries. [5, p.7]. The same study reveals that among the risk factors that led to the death of almost half of the number of people registered, there are also behavioral risk factors, which include unhealthy diet and low physical activity. Low fruit and vegetable intake, an unhealthy diet, and excess sugar and salt intake were implicated in a quarter of all deaths in 2019.

In the National Report of Romania "Evaluation of chronic morbidity through dispensation in children's collectives and young people. National report 2019" the data received annually from school medical offices are analyzed. Thus, it is found that the national annual average prevalence of chronic diseases dispensed in the period 2018-2019 places refractive errors with 28.61%, followed by obesity of non-endocrine cause with 10.98%, and acquired deformities of the spine ranked third by 9.68%. The percentage of obesity prevalence increases with the children's age, reaching the highest values of the prevalence of non-endocrine obesity among secondary school students. [3,p.17].

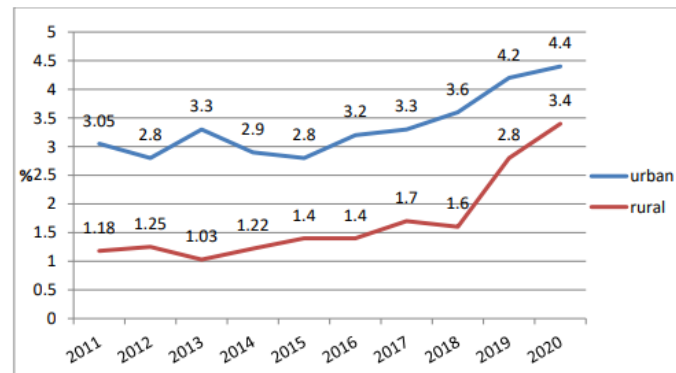


Fig. 1. Dynamics of the prevalence of obesity of non-endocrine causes 2011-2020

Source: The National Report on the Health of Children and Young People in Romania 2020, p.16

In the list of diseases at national level, obesity due to non-endocrine causes ranks 2nd in the top of chronic diseases. In first place are refractive errors with 18.7%, followed by obesity of non-endocrine cause with 15.4% and weight hypertrophy 6.7%. [6, p.16]. The dynamics of its prevalence, as presented in the National Report on the Health of Children and Young People in Romania 2020, are recorded with increasing values starting from preschool age until the twelfth grade (Fig.1), regardless of the environment of origin (urban versus rural), a fact also noted in the previous Report.

Recently, the study started by the COSI initiative (European Childhood Obesity Surveillance Initiative) in its fifth round (2018/2019), a research to which Romania joined in 2012, allowed the collection of data from the entire country and their processing, using the common protocol developed by the Office of the European Region of the World Health Organization and the member states participating in COSI. This study revealed a prevalence of overweight among primary school children of 16.6% and obesity of 13.9%. Alarming is also the percentage of 3.7% of children with severe obesity. Among boys, overweight and obesity have a higher prevalence than among girls of the same age - 32.3% versus 28.7%. It is also alarming that severe obesity is almost 3 times higher in boys than in girls. It has also been found that the prevalence of overweight and obesity increases with the age of the child. If children aged 7-8 years have a score of 27.3%, for those aged 8-9 years is 31.4%, for those aged 9-10 years a figure of 34.6% is reached. This growing difference of 7.3% in just three years is alarming in the long term for children's health. [8, p.71]. The sixth round of the European Childhood Obesity Surveillance Initiative (COSI) takes place in the school years 2021-2023. The results of the study are expected to show an increase in the numbers related to obesity due to sedentary lifestyles during the COVID-19 pandemic.

2. BEHAVIOR MODELING THROUGH THE EDUCATIONAL PROGRAM, WITH THE PURPOSE OF PROTECTING THE HEALTH OF YOUNG CHILDREN.

2.1. Educational interventions are at the heart of the program's success.

Started on June 14, 2012 in Iași County, North-Eastern Region of Romania, the program "Granny's Health Bag - Healthy traditions for healthy children" aimed to promote a healthy diet and a healthy lifestyle in order to prevent childhood obesity and chronic diseases. Initially, this Program managed to bring 10 to the characters of the beloved folk tale "The Goat with Three Kids" around 2000 children between the ages of 3 and 10. The educational program, of which I am part of the team, promotes a healthy lifestyle, respecting local traditions, and is included in the international networks for the prevention of obesity among children – EPODE International Network and Youth Health Community. Since its inception, the "Granny's Health Bag" Program has been awarded the First Prize at the Global Obesity Forum (New York, 2012) for the best activity for childhood obesity prevention. The final product of the educational interventions materialized in a skit whose lyrics I created and dramatized

with the preschoolers I coordinated. This skit is inspired by the ideas of the book "Granny's Health Bag", author Mocanu Veronica, the Program coordinator. In the skit, the character from the folk tale, the goat, teaches the children how to eat healthy, choosing fruits and vegetables full of vitamins and minerals, which one by one come out of the magical *Traista* with health.

In the 10 years since the Program has been running, around 50,000 young children have benefited from the campaigns and educational activities to adopt a suitable lifestyle. The Healthy Traditions Foundation has also created a unique educational package in Romania, which includes a book with 8 chapters containing information for children and teachers, structured in weekly activities during a school year, authored by Mocanu Veronica, and two methodological guides for preschool education, respectively for primary education, which come with practical application suggestions, suitable for children aged between 5 and 10 years. My contribution in the development of the methodological guide aimed at translating the information into scientifically and methodologically structured activities for teaching lessons. For these results, the Program was also included in the international Youth Health Community (YHC) network and was designated the winner of the First Place in the category "Healthy Lifestyle Cities" in the EU Health Award, granted by the European Commission in 2021.

2.2. Program strategies

"Granny's Health Bag. Healthy Traditions for Healthy Children" is a program that aims to educate children about the principles they must have when talking about a healthy lifestyle. The cooperation of social actors made possible the development of research activities and educational campaigns in schools, actions that focused on the awareness of the importance of maintaining a weight within normal limits from an early age. Dieticians, teachers, representatives of community decision-makers and of private organizations joined forces for a common goal. The development of healthy skills and habits among young children who are at the age of fundamental acquisitions occurred through classroom activities supported by teachers who were trained in accredited courses. The teaching activities were based on the educational package which provides models of engaging design and worksheets accessible to children and which are based on traditions and popular culture. The playful aspect of the images support learning and make it possible to identify with the characters of beloved folk stories. Thus, based on model behaviors, the habits of a correct lifestyle are formed much more easily.

Therefore, the interventions initiated by the teachers in the institutions participating in the project were aimed at stimulating children's interest in knowing some information, concepts about a healthy diet, developing skills and abilities that underpin the adoption of an active lifestyle, focusing the effort on the child's needs, wants and desires.

Obesity prevention activities have been monitored and evaluated throughout the course of the program over the years. Data from studies conducted under the program by the Healthy Traditions Foundations have shown palpable results, with small fluctuations, but are included among international statistics where childhood obesity is at epidemic levels.

At the moment, the situation is more than worrying for the young population, especially since during the COVID-19 pandemic, children have gained weight. This is confirmed by numerous studies. For example, the Kaiser Permanente Southern California (KPSC) study shows that in 2020 the number of overweight and obese people in the targeted group increased by 9% (children between 5 and 11 gained 5 kilograms, while young people between 16 and 17-year-olds gained 2 kilograms extra). The trend of increasing obesity and overweight for the following years proves that lifestyle factors have been negatively affected due to eating habits and especially the sedentary lifestyle accentuated by the COVID-19 pandemic.

2.3. Program Research

The study data are registered by the Center for Experimental Biobehavioral Research in Obesity, University of Medicine and Pharmacy "Grigore T. Popa" - Iași, Romania, under the coordination of university professor Dr. Veronica Mocanu. The study data were coded and entered into EXCEL, then exported to the statistic application.

Between November and December 2022, in kindergartens participating in the national program "Granny's Health Bag. Healthy Traditions for Healthy Children" in the Municipality of Iași, Romania, anthropomorphic measurements (weight and height) were carried out by the medical staff in collaboration with the coordinating teachers. The study had the informed consent of the parents of the participating children and the approval of the ethics committee of the University of Medicine and Pharmacy "Grigore T. Popa" – Iasi, Romania.

Statistics

N	Valid	733
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Girls	359	49,0	49,0	49,0
Valid Boys	374	51,0	51,0	100,0
Total	733	100,0	100,0	

Table 1. The structure of the lot studied

The group targeted 733 children, aged between 3 and 6 years. Of these, 49% are female children and 51% male.

Statistics

WHO Grupe

N	Valid	733
	Missing	0

WHO Grupe

	Frequency	Percent	Valid Percent	Cumulative Percent
Underweight	136	18,6	18,6	18,6
Normal weight	441	60,2	60,2	78,7
Valid Overweight	103	14,1	14,1	92,8
Obese	53	7,2	7,2	100,0
Total	733	100,0	100,0	

Table 2. Nutritional status of the lot studied

Our results show that 60.2% of children have a normal weight, 18.6% are underweight, and 21.3% are overweight, of which 7.2% of the children are obese.

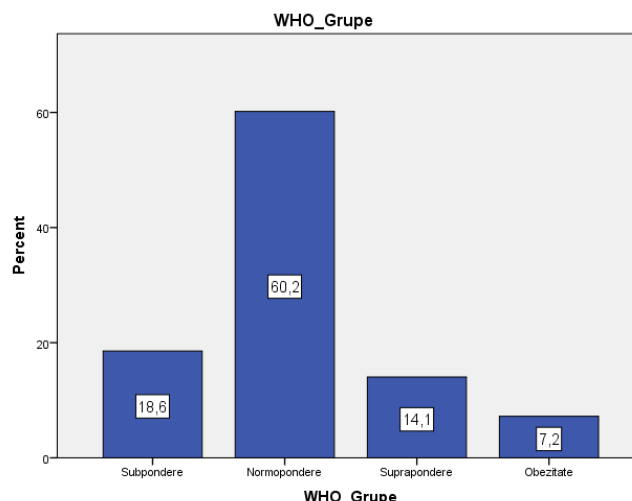


Fig. 2. Distribution by category according to BMI (body mass index) of the studied children

Regarding the research according to the gender of the children, the prevalence of overweight and obesity was higher in boys compared to girls (for overweight 24.1% versus 18.4% and for obesity 9.1% versus 5.3%).

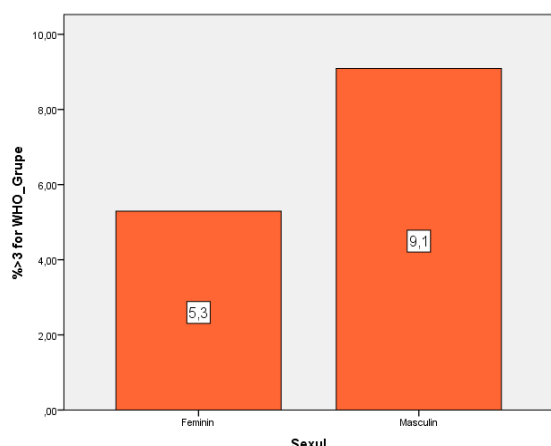


Fig. 3. Gender distribution of overweight children

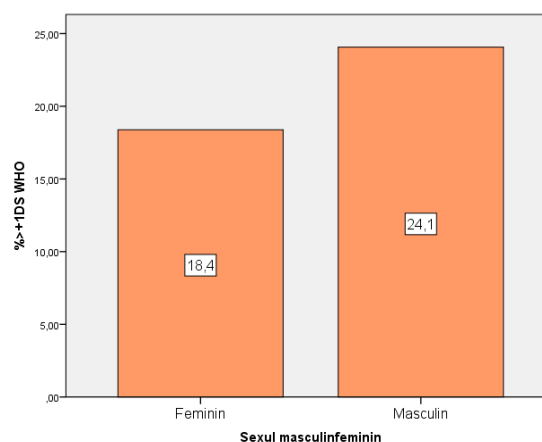


Fig. 4. Gender distribution of children with obesity

If at national level 24% of school-aged children are overweight, of which 13% are obese according to the data of the WHO European Regional Obesity Report 2022[10], the data of our study reflect a downward trend in overweight and obesity. Comparing the results obtained with data from the study in 2017 [4], within the same program, we can see a decrease in the evolution of adiposity in children during the years 2017-2022 in terms of overweight (15.7%versus 14.1%) and obesity (13.8% versus 7.2%).

3. DISCUSSION

The results of this study show figures slightly decreasing in body mass index in children aged 3 to 6 years in the "Granny's Health Bag" program. Healthy Traditions for Healthy Children". The existing national data we report [10] shows an overweight rate of 24%, of which 13% are obese children. The

group investigated in our study is below these figures, with an overweight record of 21.3%. Comparing the figures representing the percentage of obesity among children, we can see an improvement in the investigated group (13% of obese children nationally versus 7.2% in the investigated group). Regarding research according to the gender of the children, the prevalence of overweight and obesity was higher in boys compared to girls (for overweight 24.1% versus 18.4% and for obesity 9.1% versus 5.3%).

The data obtained as a result of this research place the investigated group slightly below the numbers of the national statistics, but place the results obtained in the table of countries with a high prevalence of obesity. Our conclusions must be viewed through the limits of the research. A limitation refers to the number of children in the group. Also, this study targeted children living in an urban environment, where the educational intervention took place.

4. CONCLUSIONS

The conclusions of this study provide information about the children's health between the ages of 3 and 6, living in Romania, the Municipality of Iași, in the "Granny's Health Bag" educational program. Healthy Traditions for Healthy Children". Thanks to the educational interventions conducted by the coordinating teachers through planned activities within the optional carried out with the educational package, designed within the program, a slight improvement trend was observed in terms of the health status indicated by the screening data for anthropometric measurements. Very important was the training of the teaching staff carried out within the accredited courses that we initiated and carried out within CCD "Spiru Haret" Iasi (national professional provider of continuous training programs). These results motivate us to continue educational activities to raise awareness of the danger of unhealthy eating and overweight for children.

Data from around the world draw attention to the alarming situation caused by the pandemic years, in which the prevalence of obesity has increased by at least one percent each year. In addition to the known factors, the disponibility for physical activities and for movement during free time has decreased considerably. This fact requires the existence of urgent interventions aimed at children's nutrition, physical activity and lifestyle as a whole, carrying out preventive actions.

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