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Original Article

The situation of obesity and overweight children in Albania

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Abstract:
Introduction: Obesity and overweight is a serious health problem because it reduces longevity and quality of life. Individuals with these symptoms have a high risk of developing ischemic heart disease, hypertension, hypercholesterolemia, diabetes, obstructive pulmonary disease and some cancers. Obesity is mostly caused by a combination of excessive energy intake through food, lack of physical activity and genetic susceptibility, although some causes are caused by genes, endocrine system diseases, medications or mental illness. Evidence to support the view that some obese people, despite eating less, still gain weight due to a slow metabolism. In fact, most obese people have a higher energy expenditure than physically weak people, because of the energy it takes to maintain a large body weight. *Background and Aim of Study:* The study as part of the child obesity assessment system aims to: collect, analyze, interpret and disseminate descriptive information for monitoring overweight in children, already identified as a serious public health problem globally. *Material and Methods:* The methodology used consists of children aged 8-9 years. The measurements cover the period from the beginning of April to the last week of May 2021. A transversal (cross-sectional) study was undertaken which included the primary sampling units in 16 public schools and 747 pupils. All data analysis was performed using the statistical package SPSS (Statistical Package for Social Sciences, version 20.0) and Microsoft Office Excel 2010. Pearson correlation coefficients were used to estimate the linear relationships of numerical variables, where they were considered statistically considerable values $p \leq 0.05$. *Results:* The prevalence of overweight is significantly higher in male children compared to female. The obesity prevalence interval by gender is 21 (5.7%) boys and 6 (1.6%) girls. Efforts to maintain weight were much more evident in girls than in boys. This behavior was more pronounced with increasing age. *Conclusions:* The school for its own function and competencies should become an ideal place for concrete actions in promoting a healthy diet and physical activity, as necessary factors for the psycho-physical wellbeing of children.
Key Words*:* school, healthy food, prevalence, physical activity

Introduction

Obesity challenge requiring critical evaluation during life

Obesity is a body condition where excess body fat, obtained through food, constantly accumulates in the body and has a negative effect on health, leading to decreased life expectancy and / or increased health problems (WHO, 2012). Obesity and overweight in children is an ever-increasing phenomenon nowadays. In childhood they have rightly been called one of the biggest public health challenges of the 21st century. Fast food, foods full of chemicals, improper diet, are factors that reflect on the health of a child (Branca, F., et al., 2007).

Obesity increases the chance of various diseases, partly those of the heart, some cancers and osteoarthritis. Obesity is mostly caused by a combination of excessive energy intake through food, lack of physical activity and genetic susceptibility, although some causes are caused by genes, endocrine system diseases, medications or mental illness. Evidence to support the view that some obese people, despite eating less, still gain weight due to a slow metabolism. In fact, most obese people have a higher energy expenditure than physically weak people, because of the energy it takes to maintain a large body weight. People are considered obese when their body mass index exceeds 30 (kg / m2).

Obesity in children is caused by a number of interacting factors. Certain hormonal and metabolic disorders, some of which are genetic, can cause obesity in children. In addition to feeling unwell when they are overweight, children may experience joint and bone problems as well as suffer from asthma or breathing problems while exercising, may have heat intolerance and get tired quickly. They can develop high blood pressure, abnormal blood fat levels and type 2 diabetes. Many obese children can suffer from apnea, a disease associated with moments of sleep-disordered breathing, which can lead to problems with concentration and performance in learning. Among the main risk behaviors that contribute to obesity and overweight mention with certainty: excessive consumption of foods, especially those with high energy density (Branca, F., et al., 2007; Agostoni, C., et al., 2011), the habit of not eating breakfast (Angelino, D. 2019), insufficient consumption daily intake of fruits and vegetables, low physical activity and overcoming sedentary behaviors

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among which, the use of television and computer (Vandelanotte, C., et al., 2009; Raynor, H.A., et al.,2012; Landhuis, C. Erik 2013), a phenomenon encountered especially at young ages of population.

Moreover, young people who are overweight or obese are more likely to be overweight or obese even in adulthood, 40% of children and about 60% of adolescents remain so even when they grow up. Childhood obesity is a result of an excessive, poorly nourished food diet associated with lack of physical activity. In this case more calories are taken in than consumed, increasing their risk for disease or disability during life. Also, obesity can be hereditary in nature; 25% of overweight children have such a parent and the percentage increases to 34% when the child has both parents overweight. Parents should be careful when they see that the child is above the normal weight of his age and in this case should take measures for a balanced food diet (Pearson, N., & Biddle, S.J. 2011).

Unfortunately being overweight is also associated with other physical problems of the type; problems with breathing, digestion, motor problems, etc. We should also not forget the psychological effects that can have such as loss of self-esteem, body rejection, self-closure, feelings of insecurity, depression and socialization, where in young children and adolescents it is very common in obese. Also, obese children are more likely to be ridiculed at school, as a result of their appearance, no matter how social they are. Figures show that globally, in 2016, about 47 million preschool children (under 5 years old) were overweight or obese, characterized by an increase of this figure of 60%, compared to the figures before 1990 (De Onis, M., et al., 2017).

In poor countries the income level is rising, and the traditional diet is shifting towards the western one. These factors also increase the level of obesity. One result of the so-called nutritional transition is that low and middle income countries often face a dual burden of disease, where infectious diseases associated with malnutrition, especially in childhood and ever increasing chronic diseases, are associated with obesity and western lifestyle. (Popkin, B.M., & Adair, L.S. 2012).

Childhood habits related to diet and physical activity do not change easily throughout life. Therefore, preventing and inhibiting the growth of obesity in childhood and development is a challenge for public health today, as it is very difficult to treat obesity installed, the probability of being an adolescent or adult obese is very high, it is difficult to correct wrong eating habits in adulthood, acquired since childhood (Pearson, N., & Biddle, S.J. 2011).

Europe is presented with incomplete data regarding the obesity trend, especially for Eastern European countries. Until recently this data has not been collected consistently across the continent, making it difficult to compare data between countries. However from the analysis of available data it is noticed that in the last two decades the level of obesity among children, in many countries has increased.

Patterns of body composition

To best determine the body composition of the individual, it is necessary to understand its theoretical models. We are recalling that the human body is made up of water, proteins, minerals and fats. According to many scientists, the two-part model of body composition divides the body into the fat part and the fat-free part. The fatty part includes all fats that can be extracted from adipose tissue and other tissues. Fat weight is always presented in relation to body weight. On average, the percentage of body fat is 12% to 15% in young men and 22% to 25% in young women. Using these averages as a reference, we will call obese (overweight) when body fat is more than 25% in men and 30% in women. Experts recommend that for good fitness it should be 12 - 18% for men and 16 - 25% for women (Rezagholizadeh, F., et al., 2017).

Body fat tends to increase with age. This condition is caused as a result of decreased physical activity, decreased basal metabolism and consequently reduced caloric needs. Excess body fat is a significant indicator, in terms of poor health and physical decline of the individual. However, it is known that body fat serves as a preservative and insulator of body heat, as an energy substance and as a protective layer. So the minimum fat percentage is estimated to be 5% in men and 15% in women (Rocha, N.P., et al., 2017).

Excess body fat is known to be a risk factor for developing chronic diseases. Excess body fat is also a barrier to results in physical activity because it does not participate in the production of force in the skeletal muscular system. Generally a low percentage of body fat is a favorable condition in increasing physical results, especially in activities that require strength and muscular endurance and strength. The fat-free part consists of chemicals, including tissues and water, such as muscle (protein), bone (mineral) (Sadeghi, O., et al., 2015).

The two-part model of body composition has the following in mind why the preconditions that we are presenting are as follows:

1. The fat density is 0.901 g / ml.
2. The density of fat-free weight is 1,100 g / ml.
3. The density of fat and all non-fat components (water, minerals, proteins,) are the same in all people.
4. Densities of tissues involved in lean weight are constant in the individual, as well as the percentage of tissues in this weight is constant.
5. These preconditions mentioned above are valid only for adult males. Where fat-free weight consists of 73.8% water, 19.4% protein and 6.8% minerals.

While for women and children the density of fat without fat is not 1,100 g / ml due to changes in water content and minerals. Children have a higher percentage of water in the fat-free part (76.6%) and less minerals

(5.4%), if we compare it with adult males (respectively 73.8% water and 6.8% minerals). As a result, the weight of non-fat weight in children is lower (1,084 g / ml). In women the percentage of water is slightly higher (74.4%) than in men and bone minerals are lower (6.1%), consequently the fat-free weight density is lower (1,095 g / ml), for this reason the fat percentage in women and children is often overestimated compared to men. To eliminate these errors, the multi-part model of body composition was used, which is based on the measurement of total body water and bone minerals, for each of the above subgroups (men, women, children (Henche, S.A., & Torres, R., 2011).

Types of obesity

We have two types of obesity, called hyperplastic obesity and hypertrophic obesity. It is known that the total number of fat cells is determined at the age of maturity. Fat cells grow in number in the first year of life and during puberty. Their number does not change in adulthood. Consequently the tendency for obesity is determined from the age of adolescence.

Thus, hyperplastic obesity is characterized by an increased number of fat cells. A normal weight individual has about 25-30 billion fat cells, while an obese person has about 42-100 billion fat cells. This hypothesis is not complete, because obese people have an increased number of fat cells, but their size is also increased.

Hypertrophic obesity is mainly associated with enlargement of existing fat cells. Cell size increases during adolescent development, and excess fat in the form of triglycerides is deposited in them. The size of fat cells in obese people is on average 40% larger than in non-obese people. Diet and exercise reduce the size of fat cells, but not their number, in adults. Therefore, the prevention of obesity should start at the beginning of puberty (8 - 9 years old) for girls and (10 - 11 years old) for boys (Newell, A. 2007).

Nutrition and obesity

Nutrition, health and education are the three main pillars of a nation's development. Without proper nutrition even health is not good. The amount of food people eat, the quality and safety of food have a direct effect on their health and well-being and consequently their ability to act to improve their lives. Nutrition is the process by which people receive and use food for the normal functioning, growth and maintenance of their bodies. Nutrition is the total amount of processes involved in getting and using nutrients from foods to achieve the growth and maintenance of the body. It includes swallowing, digestion, absorption and assimilation. Nutrients are stored in the body in various forms and are used when food intake is not enough (Villinger, K., et al., 2019).

Healthy eating is essential throughout all stages of life. Nutrition is one of the basic pillars of life, health and development, throughout the life of an individual. Starting from the earliest stages of fetal development, at birth, through infancy, childhood, adolescence, adulthood and into old age, proper nutrition and good nutrition are essential for survival, physical growth, mental development, performance, productivity, health and well-being. Nutrition is at the core of human and national development. Healthy eating is especially important for growth and development, prevention of health problems such as iron deficiency anemia, obesity from malnutrition, etc., reducing the risk of developing diseases such as, heart disease, cancer, diabetes, and osteoporosis (Benalcazar, D.A., & Cascella, M. 2021).

Food well-being depends on four main factors: *food, care, health and environment.* Nutritional well-being requires a variety of safe and acceptable foods that meet all nutritional needs. Good health is very important for nutritional well-being, just as good nutrition is important for maintaining good growth and development. Malnutrition is a general term that covers health disorders caused by improper intake of nutrients and energy with foods. It includes on nutrition and malnutrition. Malnutrition is a condition caused by a lack of nutrients and energy that we deal with in food. Malnutrition can be further divided according to the type of nutrient that is missing e.g. protein-energy malnutrition, or malnutrition due to deficiencies of certain nutrients such as, from lack of iodine, iron. Overeating is a condition caused by overeating energy-rich foods, or other nutrients together with little physical activity (Quader, Z.S., et al., 2019).

The situation of overweight and obesity in Albania

In Albania, overweight and obesity are an important risk factor for health, especially for non-communicable diseases. This risk factor operates from childhood. Data from a study conducted by the IPH, showed that 15.2% of children aged 9-10 years are overweight, of which 3.8% are obese. IPH data, 2008-2009, revealed that about 22 percent of children under the age of five are overweight or obese, while among adults over the age of 15, 53% of men aged 15-49 were overweight (of whom 9% obese) and 39% of women of the same age group were overweight (of whom 10% obese) (Institute of Public Health Albania, 2010).

It is never too early to start preventing obesity. The data above show that even in young children the level of obesity is increasing across the globe. Also, it is very clear that for any overweight individual it is very difficult to lose weight, regardless of age. Preventing obesity in the first years of life (even before birth through healthy habits during pregnancy) confirms a healthy life and this is the most promising way to overturn this global epidemic (Jansen, S., et al., 2015).

The most troubling aspect of obesity in children is that these children remain obese even in adulthood, thus developing more serious pathologies, which tend to lead to reduced quality and longevity. In fact, the habits acquired in childhood, related to diet and physical activity do not change easily during life.

Therefore, preventing and inhibiting the growth of childhood obesity poses a public health challenge today, as it is very difficult to treat established obesity, the probability of being an adolescent or adult obese is very high, it is difficult to correct wrong eating habits in adulthood, acquired since childhood. (Tarp, J., et al., 2018).

Material & methods

The methodology used is that of studying a selected sample (children attending primary school classes, age group 8-9 years). Classroom measurements cover the period from the beginning of April to the last week of May 2021.

Beneficiaries of the study

This database will serve as a genuine source of data for the planning of complex actions that must persist in the rapid changes of social, economic and environmental factors that affect the lifestyle of children, turning it into a lifestyle of healthy, through a balanced diet and physical activity.

Direct beneficiaries:

• Children will benefit from the implementation of prevention or intervention programs that will be developed on the basis of obesity surveillance and dietary risk behaviors.

• The parents of the children included in the study will have a clear picture of their children's health situation related to their nutritional status. It informs them about the problems of a one-sided diet, unhealthy lifestyle and makes them aware of the consequences on health.

Indirect beneficiaries:

• The data of this study will encourage education employees to further develop the promotion of a healthy nutrition of children according to different age groups, as well as to improve their scientific opinion in order to improve the nutrition curricula in schools. , in line with the trends of today's society in this field.

Study population

The study population consists of children attending the 2nd and 3rd classes of the 9-year system schools, respectively. Choice of study of this age group is related to the high risk of obesity, the still small impact of increasing puberty, as well as the ability of children of this age to answer some simple questions (De Onis, M., et al., 2017).

Steps to perform field work

First step

It started in April 2021, where a week before the start of the study, the schools that would participate in the study were announced. At the same time, the schools were asked to notify the parents whose children would participate in the study, in order to obtain their approval.

Second step

It was the interviewer training and the piloting of the questionnaire. Before the fieldwork began, the working group organized a training with all the interviewers, who were the physical education teachers of the schools in the study. Participants received detailed instructions, instructions on how to maintain confidentiality, and how to avoid influential responses.

Last step

During the months of May - June 2021, it was the distribution and completion of all questionnaire according to the selected schools, as well as the performance of anthropometric measurements of the children participating in the study. All children were informed about the purpose and objectives of the study, as well as explained in sufficient detail especially the data related to the questionnaire.

Sampling method

The sampling method used is in groups, in accordance with the methodology described in the international literature for studies of this type. A transverse (cross-sectional) study was undertaken which included a representative sample of children aged 8-9 years. A detailed description of the sampling technique is given below:

a) Sampling scheme

- A random simple, transverse (cross-sectional) sample with a probability of 16 was obtained. Thus, the primary sampling units were public primary schools.
- A stratification was undertaken according to classes (second and third) as children of the age group targeted for this study (i.e. age group 8-9 years) belong to both of these.

b) Number of schools included in the sample 16 from 4 cities. (Tirana, Shkodra, Vlora, Berat)

c) Number of classes included in the sample: 16 * 2 = 32 classes (2 classes for each school).

d) The sample size calculation was based on the following assumptions:

- Level of participation in the study: 90% (in fact this is a conservative assumption which tends to maximize the sample size) based on a participation level of 90%, the required number of pupils should have been ≈800 (instead of number ≈722 for a simple random sample).
- Number of pupils per class: tends to maximize the sample size of the classes included in the study since the average number of pupils per class is = 30 ± 2 in the city of Tirana and = 23 ± 2 in the other three cities.

- The total number of participants in the study was 803, of which 17 were excluded in the implementation of the questionnaire because they were unreliable and 39 questionnaires were incorrect in wording. The participation rate in the study was 747/803 = 93%, where the distribution is presented in Table 1.

Table 1. Number of pupils, by cities, schools, classes

No.	City	No. total of schools	No. total of classes	No. total children	Frequency in%
1	Vlora	4	8	165	22.1 %
2	Berat	3	6	131	17.5 %
3	Shkodra	3	6	122	16.3 %
4	Tirana	6	12	329	44,1 %
5	Totals	16	32	747	100 %

The number of children examined was, with an average age of 8.63 years and a distribution by gender respectively 52.6% male and 47.4% female.

Table 2. Distribution of children 8-9 years old by gender

Children	Frequency	Percentage%
Boys	394	52.6
Girls	353	47.4
Totals	747	100

Tools and materials of the evaluation system

The study included all children of classes II and III selected by sampling, present on the day of anthropometric measurements. No return to class was foreseen for the children who were absent on the day of the measurements. It was envisaged that children whose parents would not allow participation in the measurement would not be included.

The data collection consisted of the administration of a standard questionnaire, which contained questions aimed at collecting a range of data on: weight, height, diet and health, sources of information on nutrition, frequency of food consumption, physical activity, perception of body image assessment. Confidentiality was extremely important as a procedure, to ensure pupil anonymity through the data collection process. The interviewers were the physical education teachers of the schools and the classroom teachers in the study, where in addition to the instructions written at the top of the questionnaire, the pupils were given verbal instructions on how to complete the questionnaire anonymously. Only pupils who completed the questionnaire were included in the study.

The study included all children selected by sampling, who were present on the day of anthropometric measurements, regardless of their age. It was envisaged that children who would not allow their parents to participate in the measurement would not be included. However, there was no rejection by the parents regarding the participation of their children in this study, as well as by the children during the anthropometric measurement process in the classrooms. Children with physical disabilities were measured, but their results were not included in the database for analysis. No request was rejected by the school staff regarding the performance of anthropometric measurements of children.

Database creation and data analysis

Data analysis identified significant changes in the prevalence of health consequences, compared by gender and age group, description of variables (means and standard deviations for numerical variables) as well as the application of statistical tests to compare the questionnaire questions. Only statistically significant results are included in the report. All data analysis was performed through the statistical package SPSS (Statistical Package for Social Sciences, version 20.0) and Microsoft Office Excel 2010. The interpretation of all the results of the study was done very carefully based on the type of study. Since, it was a transversal (cross-sectional) study, the analysis of the statistical data used consisted of the actual analysis in the following procedures:

- Hi-square test and Fisher's exact test to compare the prevalence of overweight and obesity in children by gender, or district included in the study.
- Binary logistic regression was used to assess the ratio of the likelihood of overweight, obesity, physical activity, diet in children.
- Pearson and Spearman correlation coefficients were used to estimate the linear relationships of numerical variables.
- For all statistical procedures applied, the values of $p \leq 0.05$ were considered as statistically significant.

Results and discussion

Since the design phase of this study, it has been sought to shape an assessment, a realistic reflection in which the school and society could see reflected information, impressions and experiences on which to base their prevention activities with great sensitivity and competence. The study was implemented based on the implementation of a standard data collection protocol for the assessment of childhood obesity. The application of the same protocol in other similar studies in the future will make it possible to assess in time the trend of childhood obesity of this age group.

Body Mass Index, body image and behaviors that control body weight

- 73.4% of children aged 8-9 attending school are of normal weight versus 3.6% classified as obese.
- Compared to boys, girls are more normal and underweight (87.4% vs.73.2%).
- Girls tend to report more normal weight compared to boys.
- 4.7% of children were on a diet to lose weight.
- The proportion of girls who have negative self-perception about their weight and / or diet is higher compared to men (6.2% vs.3.8%).

Body mass index

The assessment of pupils' body mass was based on the measurement of weight (in kg), height (in meters) using four categories: underweight, normal weight, overweight and obese. It should be noted that obesity values that vary from measurements tend to be lower than those obtained from health examinations (Rosso, L., et al., 2015). Of the children examined, body mass index data by age group and gender noted the tendency of boys to be more overweight or obese compared to girls of the same age group. Regarding the categories of body mass index according to the classification of the World Health Organization (WHO, 2012), 52 (7%) of pupils were underweight, 549 (73.5%) had a normal body weight, 119 (15.9%) were overweight, while 27 (3.6%) of the students were obese p <0.003 Table 4.

Table 3. Distribution of children by body mass prevalence

BMI *	Normal	Underweight	Overweight	Obese	Total
Number	549	52	119	27	747
%	73,5 %	7 %	15,9 %	3,6 %	100,0%

*p<0.003

A higher percentage of girls (87.4%) than boys (73.2%) were classified as normal and underweight, and a higher percentage of boys (21.1% compared to 11% in girls) were classified as overweight while obesity was encounters significantly more in boys 21 (5.7%) than in girls 6 (1.6%) Table 5.

Table 4. Index of body mass of children by gender

Gender	Overweight	Obese	Normal	Total
Boys	77	21	268	366
%	21,1%	5,7%	73.2%	100,0%
Girls	42	6	333	381
%	11%	1,6%	87.4%	100,0%
Total	119	27	601	747
%	15.9%	3.6 %	80.5%	100.0%

* Normal and underweight are included in one column. * p <0.001

Body image

Regarding body image self-perception, 5.3% (39) of pupils think that their body is very healthy and 8.7% (65) think that their body is very weak. However, there is evidence of a statistically significant difference in the level of poor perception of body image between boys and girls. Thus, the proportion of girls who have negative self-perception about their weight is higher compared to men.

Behaviors that control body weight

For the assessment of body weight control behaviors, students were asked if they were dieting or doing anything else to lose weight. In total, 4.7% (35) of pupils reported dieting. Of these, girls were more likely to diet compared to boys (3.2% (24) and 1.5% (11)), or thought they should start dieting to lose weight (6.4% (48) and 4.8 % (36), figure 1. The need to diet was influenced by the parents of the pupils.

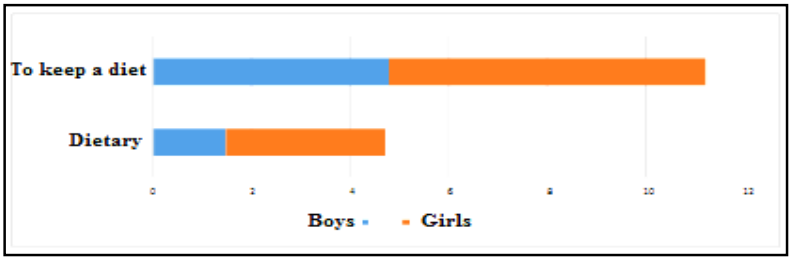

Figure 1. Distribution of pupils who were on a diet or who needed to lose weight

Physical activity, sedentary lifestyle, food tastes

- 26.1% of children are involved in physical activities 3-4 days a week.
- Boys do more physical activity per week compared to girls.
- Three in four children aged 8-9, aged spend more hours per week watching TV or video.
- Boys play computer games more than girls, both on weekends and weekdays.

Food flavors

In order to better navigate the necessary preventive and corrective measures in the field of food, it is important to consider the knowledge and skills in the field of nutrition of both children and their parents. In this way, education and health promotion programs can be programmed and implemented, but also the effectiveness of these programs can be evaluated. To satisfy such needs and to better understand the level and quality of nutrition knowledge is very valuable analysis of the data obtained from the completion of food questionnaires by children. As part of extracurricular activities is the food education of children in schools. The special focus especially for children of this age is justified by the fact that it is easier to change eating habits at a young age than adults, as well as the impact on children, parents and their families regarding the way of eating. Therefore, gathering information about "participating class initiatives to promote a healthy lifestyle (e. g. physical activity and / or healthy eating) for pupils in each class involved in the project" was considered important. Some schools reported that they had a positive initiative, respectively 62.8% versus 37.2% that had not had such an initiative Figure 2.

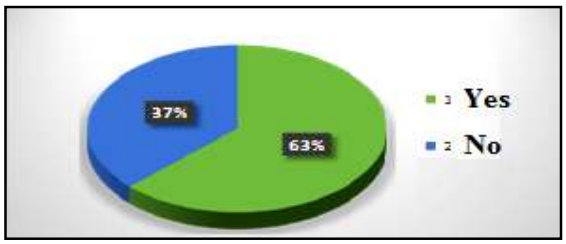

Figure 2. Distribution of schools that have implemented food initiatives, in percentage

The nutritional status of children is directly influenced by that of the parents. Contrary to the European trend where children with parents with higher education have a greater concern for the problem of overweight, our study shows that overweight or obese children come mostly from this category of parents, although in food choices they are guided by the principles of the right to a balanced diet. Parents also try to choose safe, quality and fresh, healthy foods for their children, trying to match their desires, using various information tools for a healthy diet for themselves and their families. Parents have good knowledge in the field of nutrition and also want to be more informed. But despite the good knowledge they possess, not all families notice a healthy diet and satisfactory physical activity. The children in the study had access to school facilities for a range of foods and beverages, where their food quality remains to be discussed. Meanwhile, among the most mentioned items were sweets, chips and other foods where the most common were pie (50%), sandwich (24%), hamburger (20%), pizza (11%). (Table 6 * f, 89.7% - yes, 10.3% - no) There is also a tendency to improve the way of eating in the family, focused on reducing the consumption of fats, sugary products or containing preservatives and dyes, as well as reducing the consumption of salt by trying to increase the consumption of fruits, dairy, meat and fish. Thus, observing the data of the way of feeding at home table 6 * a-e, fruits, dairy and water dominate. Meat and vegetables are at almost optimal levels, slightly above average. The following data are presented:

Table 5. Delivery of food / beverages with access for pupils to school and home

List of foods	YES	NO
a- Fruits	81.6%	18.4%
b-Vegetables	57.2%	42.8%
c-Meat products	63%	37%
d-Dairy	96.1%	3.9%
e-Water	96.3%	3.7%
f-Cakes, chips, pies and other	89.7%	10.3%

* a - e food at home, * f - food in school premises

Conclusions

Body mass index

From the analysis of these data according to the age groups taken in the study for children 8-9 years old, 15.9% were overweight and 3.6% obese. The trend of overweight and obesity for gender and age, regardless of the limit values used for the assessment is the same. The prevalence of overweight is significantly higher in children aged 8-9 years, in men compared to women. The obesity prevalence interval by gender is comparable

to the intervals encountered in European countries and with the same tendency to be higher among boys than girls. Attempts to lose weight or diet were much more evident in girls than in boys. This behavior was more pronounced with increasing age. Gender differences can be partly explained by changes during puberty, a period in which girls see increased weight as a barrier to maintaining their ideal body shape (Bichteler, A., & Gershoff, E.T., 2018).

Boys tend to be more overweight than girls. Reasons for this result may be related to the fact that girls eat healthier, boys eat more fast food and parents encourage boys less to control their weight.

Body image

Children are qualitatively aware of their body image and do not hesitate to express dissatisfaction and desire to change this image, especially evident for overweight or obese children. Unlike children parents give their judgment regarding their child's body image but claim they would like their child to be a different image. Their preference is with a tendency towards a figure above (towards overweight) that what children are really, different from what children wanted to be. Thus the median of image perception is lower than the median of the image desired by parents. Regarding body image, our study found that girls are less likely to report being very healthy compared to boys (Currie, C. et al., 2013).

Since weight-related problems are related to gender, gender-specific strategies need to be developed, as body image and weight-related problems are strongly dependent on different pubertal development between girls and boys, as well as expectations various socio-cultural (Richardson, S.M., et al., 2009).

Necessary preventive components should include nutrition, promoting an active life, reducing stigma on weight and body shape, media information and effective stress management.

Sedentary life

Analyzing the way children organize their day, it has been seen how television and computer currently occupy most of the time, to the detriment of active games or sports practices, these essential elements for increasing self-esteem and satisfaction for the body. From their answers it was found that for all three questions, over the weekend there were more young people who spent two or more hours with these activities compared to the days of the week. The most pronounced activity was watching TV, videos or other entertainment on the screen (73.9%). Overweight and obese children use this tool for a longer time.

Excessive use of these passive ways is then accompanied by exposure to advertising spots of various food products (sweet or sugary products, which conflict with a balanced and recommended diet) as well as the intake of hyper caloric foods. This combination factors, even for the study population, is significant for the value of overweight and obesity found, with consequences that are thought to increase with the passage of adolescence (UNICEF, 2019).

Food flavors

Regarding healthy eating initiatives there is an increasing trend, some schools report the implementation of these initiatives for treatment in extracurricular programs of topics to promote a healthy lifestyle, such as increasing physical activity and / or a healthy eating.

But despite these programs, children have a high access to unhealthy foods (chips, croissants, sugary juices, hamburgers, sandwiches, pizza, pies, etc.) and / or around school premises, presenting the risk of cultivating bad habits for a healthy diet in children from an early age.

The formation of alliances between the world of school and health, should be seen as concrete and fruitful steps in the implementation of integrated and scientifically proven interventions for their effectiveness. Such experiences are offered today by many member states of the European Union, which can serve as very good models for implementation, adapted to the Albanian conditions.

Knowledge of the nutritional patterns followed by children and their families (what they eat, where, when) allows the development of appropriate support for food marketing and distribution services in schools, even in relation to the growing consumption of food ready-made, found everywhere and delicious. In fact, nutritional habits during childhood play a very important role not only for the direct impact on well-being, growth and mental development, but also for the impact on the state of health in adulthood in the future.

Conflicts of interest

The authors state that they have no conflict of interest.

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