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A Balanced Diet and Healthy Food in the Opinions of Early Education Students

KEYWORDS ABSTRACT

healthy food, balanced diet, early school education, health promotion, nutritional risks The text covers the issue of a balanced diet and healthy food from the perspective of a child in early education. Sweets, overweight, the lack of knowledge about a balanced diet, and many other factors affect abnormal development of children. Healthy food has become a kind of a trend. More and more people are trying to play sports, avoid unhealthy food and follow a balanced diet. Adults, i.e. parents, but also teachers and other representatives of educational institutions, are trying to ensure that children know the principles of healthy lifestyle, which includes the knowledge of healthy eating. Nowadays, schoolchildren in early education are taught about the dangers of eating unhealthy foods more frequently than they were in the past. Therefore, the purpose of the research was to learn their opinion about what healthy food is and to what extent they follow a balanced diet when choosing food products. The researchers were looking for the answers to questions concerning the knowledge of 3rd grade students about a balanced diet and about possible threats that may result from eating unhealthy food. The analysis of the research results has revealed that students have adequate knowledge about a balanced diet, which they usually get from school or from the Internet. However, the children do not always follow this diet and the research has also confirmed the fact that students often use their knowledge of a balanced diet and they talk about healthy food with their family and friends.



Nutrition and development of early school education children

According to Plato, health was one of the functions for improving lifestyle and cultural relativisation of a diet. Since his times, the way of living in health and coping with illness have been the factors that indicated the level of culture. The subject of healthy eating is discussed more and more frequently, and healthy lifestyle has become a kind of a new trend. A lot of people care about their diet; we eat less and more regularly.

Nutritional needs of children and youth are a complex issue, and their demand for energy and nutrients has not been specified in an unequivocal manner. While growing up, children and youth are changing in many different ways. Their individual developmental traits are changing, and the pace of maturation is different. This influences their nutritional needs. They may be different depending on the child's individual development. Up to the age of 9-10, the annual body mass increase is usually 2.3-2.7 kg. After this period of life, we can notice a slow, but continuous increase in body mass. This is the beginning of the so-called pubertal growth spurt (Szotowa 2000: 27).

A good condition of health means constant and high level of energy, emotional balance, clarity of the mind, resistance to infectious diseases, as well as the ability to defend oneself against cancer and circulatory system diseases. This, in turn, should slow the process of getting old, resulting in a longer life. Taking into account the characteristics of early education students' nutrition, we have to emphasize that:

(...) contrary to the previous stages of childhood, the period of time between 5 years old and maturity is characterized by the lack of nutrition problems and promptly decreasing need for nutrients. The fact that children are still growing is the factor that requires an increased number of nutrients as compared to adults, but, surprisingly, despite the demand related to growing up and increasing the body size, children at this age do not have a much larger demand for energy and nutrients than those under the age of 5. Also, children over 5 are increasingly more independent of their parents, and they start having their own opinions on food, sports and health. They start to participate in the provision of the products they eat, because they spend more time outside home and they go to school, which makes it possible for them to buy snacks and eat lunches at school. Thus, education in eating, nutrition and health becomes a priority in the correct development of those children. At this stage of life, it is important for the children to follow the principles of good nutrition and the food pyramid in order to develop proper eating habits (eating less fats and more starch products, fruit and vegetables) (Langley-Evans 2014: 131-132).

Thus, it is important to watch a child and teach him/her to eat food that is good for a person's organism. We can notice that the problem of improper diet is increasing as one is growing older. For an average, adult person, "something sweet" is just a sweet fruit, e. g. an apple. Sometimes adults come to the conclusion that if their parents allowed them eat sweets in childhood, they should also let their children eat sweets. Unfortunately, many adults do not read labels on the boxes of sweets. An average adult does not know that today's sweets contain many harmful chemical substances, which is why young people should not eat many of them. Also, children and youth should eat more healthy products. "The essence of healthy eating is following the rule that we have to eat many different products. In this way, we will provide our bodies with the nutrients necessary for proper functioning. In order to maintain proper development, each person needs the following nutrients: carbohydrates, protein, fats, vitamins, mineral salts and microelements" (Żuchelkowska 2013: 108).

According to Ilska, "children's eating habits are not easy to change, because children quickly adjust to their favourite foods and tastes. However, it is worth fighting for their health verifying the resources that can be used by the school and their parents. As usual, the key is the involvement of all interested parties and... a good idea of how to make children interested in it" (Ilska 2017: 27). We can often come across the situation in which a child only eats meals made of selected products. The problem is how to introduce new products into the child's diet so that he/she can try new things and change his/her eating habits. In nutrition education we have to make sure that the food products we choose are complementary and sufficient to satisfy a person's daily demand for nutrients. Nutritional needs are influenced by our age, sex, health condition, physiology of the body, and activeness. Also, there are specific principles of nutrition dedicated to children (Laska 2004: 150). It is because the starting point for health promotion is broadly understood wellbeing of many aspects of human life, which is aimed at increasing the health potential. In prevention, we are dealing with actions aimed at maintaining the current health status and preventing disease-causing factors. That is why, these concepts can permeate one another, but in both cases we can treat the actions as separate and going in different directions (Kowalczewska--Grabowska 2013: 165-166).

The main objective and result of several-year-olds' education should include changing their behaviours into pro-health ones. Such a change should be achieved by:

- gaining new knowledge and identifying one's health disorders,
- shaping attitudes and beliefs related to health and disease status,
- developing responsibility for one's own and other people's health,
- changing the system of values and learning about new values,
- shaping proper attitudes related to physical health, as well as psycho-social abilities (Woynarowska 2017: 97).



It is good to speak about good nutrition and healthy meals, but it does not eliminate the current problem under discussion. This is the problem of childhood obesity, which is strictly related to health and the sense of happiness. Contrary to modern trends promoting healthy lifestyle, the number of obese children is increasing in a terrible speed. Although practicing sports is popular, and people are trying to tell their relatives or friends to do exercises and eat healthy food, there are still many people who see nothing wrong in eating highly calorific products. Experts believe that the act on nutrition and food safety could initiate changes in children's eating habits. It is because "health promotion can be specified as the art of supporting people in changing their lives into better" (Wolny 2010: 20).

"Comparing to young people in other European countries, Polish 11-year-olds are fatter, and the alarming fact is that the problem is getting more and more serious. In its report, NIK recommends that educational institutions should encourage students to eat vegetables, fruits and dairy products. In order to achieve this objective, teachers should eat their lunches together with the students" (Kubala-Kulpińska 2018: 33). If a child suffers from obesity, teachers should support him/her. Otherwise, he/ she will not overcome this problem. The child will start doing physical exercises if there is someone who will become committed to the improvement of the situation. For a start, we can accompany the child in making a plan of actions, e. g. preparing a weekly shopping list, or establishing the menu together. In this way, children will also spend more time with their parents: they can cook together, etc. Moreover, it is worth emphasizing that we can find some ways to fight with obesity among students. "Physical activity is the best way to use the excess of energy, release tension, and facilitate the child's proper development. It is worth undertaking actions aimed at increasing the awareness of those who take care of the students, because it is them who shape children's eating habits and pro-health attitudes" (Kubala-Kulpińska 2018: 33-35).

An important factor that influences children's nutrition includes the family's eating behaviours (Jarosz 2008: 99-100). They are defined as actions aimed at the obtainment of food. They are influenced by numerous genetic factors, such as producing hormones, neurotransmitters, as well as shaping the sensory nervous system, and environmental/cultural factors. The knowledge of diversity and value of food, and of the nutrients necessary for our body's proper functioning, is also very important because it influences nutritional behaviours (Aue 2006: 201-204).

Healthy food and its importance in the opinions of 3rd grade students – in light of the author's own research

In modern times, we can be fully aware of our lifestyle and way of eating, which corresponds with the promotion of health and good nutrition. We often hear: "you are what you eat," which is confirmed by the fact that we pay much attention to what we eat, what our meals consist of, where they come from, what they contain, and to how we spend free time: whether it is active or passive. This influences our mood and energy, and all these factors constitute our health. The need to learn students' opinions on healthy eating appears. This information will help us minimize the amount of "junk food" eaten by students, and introduce some nutritional changes among children.

The objective of the research that has been carried out was getting to know the opinions of early education students on what healthy food is, and whether the students follow the principles of a balanced diet while choosing food products. The main problem was built in the form of the question: What do students of class III know about healthy food? The following detailed problems result from the above question:

- What do students of class III know about a balanced diet?
- What, in the opinion of students of class III, are the threats resulting from eating unhealthy food?
- How do the students in question receive the knowledge of healthy food?
- What is the influence of students' sex on their knowledge of healthy food?

The method used in the research was a diagnostic survey with the technique of a questionnaire. The questionnaire was built in a way that helped the researchers learn about the respondents' eating habits, and about what healthy food is in their opinion. The questionnaire was filled in by 114 students of classes III (63 girls and 51 boys) from three primary schools in Bydgoszcz. The presentation of the results starts with the analysis of the knowledge of 3-rd graders on healthy food. The respondents replied to the question concerning the source of their knowledge.

Table 1. Sources of the students' knowledge of healthy food.

Construction of souther	Gi	rls	Boys	
Categories of replies	L	%	L	%
from the Internet	8	12.70	21	41.18
from school (assemblies, lessons with the class teacher, competitions)	27	42.86	14	27.45



	Gi	rls	Boys		
Categories of replies	L	%	L	%	
from peers	4	6.35	2	3.92	
from parents	4	6.35	4	7.84	
from relatives (brother, sister, grandma, granddad, uncle, aunt)	6	9.52	1	1.96	
from TV	5	7.94	6	11.76	
from newspapers	5	7.94	2	3.92	
from books	4	6.35	1	1.96	

Source: the researcher's own analysis.

As we can see, there are two main sources of the students' knowledge. The girls say they include school assemblies, competitions and lessons; the boys indicate the Internet. Parents, relatives and peers exerts a small influence on the students' knowledge.

Healthy nutrition also includes a balanced number of meals during the day. Another table shows the results concerning the actual number of meals eaten by children every day, as well as their opinion on how many meals a day people should eat.

Table 2. The number of meals a day

Categories		number o	of meals a	day	The number of meals a person should eat every day			
of replies	Gi	irls Bo		Boys Gi		rls	Boys	
	L	%	L	%	L	%	L	%
2 meals	5	7.94	8	15.69	11	17.46	14	27.45
3 meals	16	25.40	9	17.65	31	49.21	15	29.41
4 meals	34	53.97	28	54.90	15	23.81	14	27.45
5 meals or more	8	12.70	6	11.76	6	9.52	8	15.69

Source: the author's own analysis.

The results presented in Table 2 show a significant difference between the children's knowledge of the proper amount of meals eaten a day and the actual number of meals they eat every day. It is good that most children declared eating 4 meals a day,

but there also alarming replies: more than a dozen students of the school eat only two meals a day.

Also, the students were asked about the amount of liquid they should drink every day to maintain the proper hydration of the body. Their opinions are presented in the next table.

Table 3. The amount of liquid drunk every day

Categories	The am	ount of li	quid drun ay	k every	The amount of liquid people should drink every day			
of replies			Boys		Girls		Boys	
	L	%	L	%	L	%	L	%
0.75 litre a day	19	30.16	8	15.69	14	22.22	11	21.57
0,5 l a day	34	53.97	27	52.94	32	50.79	28	54.90
1 l a day	6	9.52	9	17.65	11	17.46	8	15.69
more than 1 l a day	4	6.35	7	13.73	6	9.52	4	7.84

Source: the author's own analysis.

Experts in nutrition claim that an early education student should drink about 1-1.5 litre of liquid a day, depending on his/her physical activity. In this context, the data collected in Table 3 is alarming. Not only do children fail to drink the proper amount of liquid, but they also have no idea of how much liquid they should drink.

Also, what children drink is important. The results are shown in Table 4.

Table 4. Kinds of liquid drank by the children

	Gi	rls	Boys		
Categories of replies	L	%	L	%	
Water	34	53.97	27	52.94	
Juice	13	20.63	7	13.73	
Tea/coffee	9	14.29	6	11.76	
Sparkling drinks (Coca-Cola, Sprite, Fanta)	7	11.11	11	21.57	

Source: the author's own analysis.



Water and juice, especially freshly squeezed, are obviously the best drinks for children. According to the declarations of the respondents, more than 70% of the girls and more than 60% of the boys drink such liquids. Unfortunately, in the analysed group there are also 18 students who drink sweet sparkling drinks.

Fruit is a very good part of a young person's diet. We asked young schoolchildren how often they eat fruit. The replies were collected in Tables 5 and 6.

Table 5. The frequency of eating fruit

Cotoo din afamilia	Gi	irls	Boys		
Categories of replies	L	%	L	%	
Every day	37	58.73	26	50.98	
A few times a week	17	26.98	13	25.49	
Once a week	6	9.52	8	15.69	
I don't eat fruit	3	4.76	4	7.84	

Source: the author's own analysis.

The previous question was completed with the information about the kinds of fruit the students eat.

Tale 6. The kinds of fruit the students eat

C C I'	Gi	rls	Boys		
Categories of replies	L	%	L	%	
Apples / pears	26	41.27	13	25.49	
Strawberries / raspberries	4	6.35	3	5.88	
Bananas	14	22.22	23	45.10	
Oranges / mandarins	9	14.29	5	9.80	
Peaches / nectarines	7	11.11	4	7.84	
Grapes	3	4.76	3	5.88	

Source: the author's own analysis.

Third-graders' declarations concerning eating fruit are satisfactory. It turns out that most of them eat fruit every day or at least a few times a week. Apples and bananas are the most popular kinds of fruit: they can be easily taken to school and eaten as a snack between the lessons.

Apart from healthy food, we can assume that unhealthy products also appear in children's menu. There is no doubt that children eat sweets and fast food. The results of the analysis in this scope are presented in the next tables. First we will present the information on how often the children eat sweet products and what kind of sweets these are.

Table 7. The frequency of eating sweets

C · · · · · · · · · · · ·	Gi	rls	Boys		
Categories of replies	L	%	L	%	
Every day	9	14.29	10	19.61	
A few times a week	11	17.46	9	17.65	
Once a week	4	6.35	3	5.88	
I don't eat sweets	39	61.90	29	56.86	

Source: the author's own analysis.

According to the results presented in Table 7, a significant percentage of students declare that they do not eat sweets at all or that they hardly ever do this. The below table certainly denies these statements.

Table 8. The kinds of sweets eaten by the children

Cotton of multi-	Gi	rls	Boys		
Categories of replies	L	%	L	%	
Chocolate bars/sweets	13	20.63	11	21.57	
Bars/sweets without chocolate	35	55.56	26	50.98	
Lollipops/jellies	9	14.29	6	11.76	
Cookies	6	9.52	8	15.69	

Source: the author's own analysis.

In the questionnaire, the question: "What kinds of sweets do you eat?" was not close to the question "Do you eat sweets?". The results are alarming. The children know/are told that they should not eat sweets because they are unhealthy. However, despite this knowledge, all of them admitted that they do eat sweets, because they mentioned them in the replies to the question concerning the kinds of sweets they eat.

Even more alarming are the responses to the question related to eating fast food.



Table 9. Eating fast food

C	Gi	rls	Boys		
Categories of replies	L	%	L	%	
No	24	38.10	11	21.57	
	39	61.90	40	78.43	
Yes, including:					
Every day	2	5.13	3	7.50	
A few times a week	6	15.38	6	15.00	
Once a week	9	23.08	10	25.00	
Once a few weeks	22	56.41	21	52.50	

Source: the author's own analysis.

Fast food should not be eaten by small children at all. Thus, the above replies of children are very alarming. Almost 62% girls and 78% boys eat such foods. Fortunately, according to their declarations, most of them do not do this often – only once a few weeks. Unfortunately, five children eat such food every day, and twelve children – a few times a week. This is almost 15% of the analysed group.

It is known that children cannot buy sweets or sparkling drinks at school. Snack machines selling such products were removed from schools, or their offer has been changed. Thus, it is worth to learn what students buy in their school stores. The analysed students' declarations in this respect are presented in Table 10.

Table 10. The products bought by the children in school stores

	G	irls	Boys		
Categories of replies	L	%	L	%	
Cornflakes with milk	17	26.98	20	39.22	
Juice/water	11	17.46	9	17.65	
Jelly	21	33.33	16	31.37	
Sandwiches	7	11.11	3	5.88	
Fruit	7	11.11	3	5.88	

Source: the author's own analysis.

According to the table, cornflakes with milk and jelly are the most popular products in the analysed group. Not many children buy fruit and sandwiches. Thus, another question referred to whether the students take to school any foods that cannot be bought at school. The students' replies are included in Table 11.

Table 11. Food products taken to school by the children

Cotoo di continu	Gi	rls	Boys		
Categories of replies	L	%	L	%	
No	9	14.29	3	5.88	
	54	85.71	48	94.12	
Yes, including:					
Sweets	28	51.85	12	25.00	
Sweet sparkling drinks	11	20.37	11	22.92	
Crisps	4	7.41	6	12.50	
Sweet rolls	11	20.37	19	39.58	

Source: the author's own analysis.

The vast majority of the students admit that they take some foods to school they cannot buy there and, unfortunately, it often turns out that these are cookies or sweets. Thus, the role of parents has to be discussed in shaping the children's good nutrition habits. If they allow their children to take such products to school, they do not shape these habits in the correct manner.

The next question was related to the students' opinion on healthy lifestyle. Many of them said that, in their opinion, their lifestyle is very healthy (Table 12).

Table 12. Is your lifestyle healthy?

Categories of replies	Girls		Boys	
	L	%	L	%
No	0	0.00	7	13.73
Yes, because:	63	100.00	44	86.27
I practice sports	37	58.73	26	59.09
I don't eat sweets	11	17.46	11	25.00



	Girls		Boys	
Categories of replies	L	%	L	%
I eat a lot of fruit and vegetables	13	20.63	5	11.36
I drink much water	2	3.17	2	4.55

Source: the author's own analysis.

All the girls and more than 86% boys declare that their lifestyle is healthy. More than a half of the children practice sports. Again, the issue of not eating sweets appears, although the previous declarations were different. This time, drinking the proper amount of liquid, including water, also ranked very low.

The analysed students were to present their opinion on the influence of healthy food on a person's sense of happiness and physical health. The results are shown in the following two tables:

Table 13. Healthy food and its influence on a person's psychological state

Categories of replies	Girls		Boys	
	L	%	L	%
No	6	9.52	12	23.53
Yes, including:	57	90.48	39	76.47
Good mood	18	31.58	4	10.26
More energy	18	31.58	18	46.15
Less stress	11	19.30	9	23.08
More energy to play	10	17.54	8	20.51

Source: the author's own analysis.

The vast majority of students claimed that a balanced diet influences our psychological wellbeing. The girls believe that it gives us good mood and energy, and boys claim that it mainly gives us energy. The students think that a good diet definitely influences our physical health:

Table 14. Healthy food and its influence on a person's physical health

Categories of replies	Girls		Boys	
	L	%	L	%
No	0	0.00	5	9.80
	63	100.00	46	90.20
Yes, including:				
Smaller risk of diseases (diabetes, obesity, heart diseases)	28	44.44	12	26.09
Healthy teeth	14	22.22	10	21.74
Not feeling tired during the day	6	9.52	12	26.09
Better fitness	15	23.81	12	26.09

Source: the author's own analysis.

All the girls and 90% boys notice the influence of healthy food on people's health. For girls, a good diet is important due to the smaller risk of falling ill; the boys' answers are equally assigned to all the indicated categories.

Summary and conclusions from the empirical research

Healthy eating is a very important element in people's lives, no matter if they are adults or children. It is very important to teach a child how to choose food products properly, because this exerts an influence on his/her adult life. Early education students already have certain eating habits. The task of parents and teachers is to teach children good eating habits and principles. The time of being a schoolchild is a period in which a child is able to make independent decisions. Thus, it is important to make the child aware of the role each meal plays in his/her life. The notion of "junk food" is already known to everyone. At schools, the topic of healthy food is very popular, and teachers are doing their best to teach young generations proper values related to nutrition.

Our research was to show the students' knowledge of good nutrition and the threats concerning the lack of a balanced diet. As we know, schools forbade selling sweets and sweet sparkling drinks in school stores a long time ago. Snack vending



machines have been removed from schools, or the foods they sell have been changed to meet the healthy diet requirements.

On the basis of the analysis of the students' replies we can conclude that, in the analysed group, the children try to eat healthy food, avoiding or rarely eating highcalorie products or fast food. We can suspect that this is largely influenced by their teachers, who have proper nutrition knowledge, as well as their parents, or even the media which, to some extent, are trying to tell young recipients why it is good to buy a given product. Although unhealthy snacks cannot be bought at schools, the analysed children often bring them to school, anyway. It is worth emphasizing that parents are responsible for this, because it is them who give money to the children. And these children – according to their own decisions or under the influence of peers – spend the money on what the parents may not approve of. Also, the research has proved that the students are not willing to admit that they eat sweets. We can also notice that the girls pay more attention to what they eat and in what quantities, and the boys practice sports more frequently. The students are aware of how important it is to eat healthy food. Due to the classes carried out at school by teachers, the children are given the opportunity to make themselves familiar with the threats related to bad nutrition. The teachers often encourage the students to become interested in healthy lifestyle through organising competitions and school assemblies related to this subject. However, it happens that the children, although they know the threats related to eating unhealthy food, allow themselves to eat products that affect their body in a negative manner. It is comforting that, apart from the school classes, the researched students themselves sometimes look for the information on what they should eat and in what quantities.

There are many ways in which we can find some information on what we should eat to be healthy. While analyzing the students' replies, we can conclude that they look for the information on a balanced diet outside the school, e. g. in the Internet. Early education students know the bad consequences of eating unhealthy food. They also know the advantages of good nutrition. It is worth emphasizing that the analysed students think in a positive manner about themselves, their bodies, and the results of good eating habits. Also, they have a positive attitude towards the products which are offered to them instead of sweets or sparkling drinks which contain much sugar. The children like buying snacks in the school store where, instead of chocolate bars or crisps, they can buy cereal with milk. Also, the research has shown that, in the opinion of the students, healthy food is important in their lives and it influences their wellbeing.

The following statements have been formulated after the analysis of the results in the group of the surveyed students:

- The students have the proper knowledge of a balanced diet, which they usually derive from school or from the Internet. Nevertheless, they sometimes fail to follow such a diet.
- 2. The students often use the knowledge of a good diet. They talk about healthy eating with family and friends.
- 3. The students know that the most frequent health problems related to bad nutrition include obesity, heart diseases or problems with teeth. They know about such threats, yet they often yield to temptations.
- 4. The students learn about unhealthy eating from their school, from the parents and other adults, but they also often reach for the Internet sources.
- 5. The analysed students know a lot about healthy eating. The vast majority of them practice sports and drink water instead of sweet drinks.
- 6. The children's sex does not significantly determine their knowledge of good nutrition.

To sum up, we can determine that the selection of healthy food products influences the children's mood and physical fitness. It is worth mentioning that we should try to eat food coming from environment-friendly farms, because such products are not grown with the use of chemical fertilizers and other substances that are to protect given plants. Despite the prohibition to eat unhealthy food, the students make their own decisions concerning what they eat and in what quantities. The knowledge of the surveyed students concerning the threats of unhealthy eating is satisfactory. Many of the students are aware of the kind and amount of food they should eat. They know that food has a great influence on a person's further development. We can suppose that more and more parents talk to their children, explaining why they should not eat sweets and drink sparkling drinks, because the students "bring" their knowledge and eating habits from the family to school. The children often try to search for some interesting information related to healthy lifestyle. The students are willing to share their knowledge with others; they take part in health-promoting classes and competitions organised by the school. After analysing the results of the survey, we can say that, despite their young age, the analysed students present a positive approach to healthy novelties offered on the food market.

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