

NEW CONCEPTION OF EDUCATION TOWARDS HEALTHY EATING HABITS IN PRIMARY SCHOOL

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Abstract: *This article focuses on school task concerning forming nutritional behaviour of younger children and the current education reality in the area of education towards health at Charles University in Prague – Pedagogical faculty. The research explores the nutritional preferences of pupils of the first grade at elementary schools and their knowledge concerning nutrition and healthy lifestyle. Referring to the problems detected (unhealthy eating habits leading to obesity, threat of eating disorders), the contribution suggests recommendations suggesting how primary school teachers can improve their support of healthy eating habits by means of school education programs. The contribution draws attention to necessary changes to be made in content of education towards health module being a part of the teachers' training program for primary education at pedagogical faculties.*

Keywords: *healthy nutrition, school educational program, education towards health, training of teachers.*

1 Nutrition habits in childhood

The attitudes towards eating habits and nutrition behaviour are formed from early childhood. Family background, that is family lifestyle in which the child is brought up, have a significant effect in this area. Family influence on the child's attitudes to food and nutritional habits originates from more sources. Genetic factors, parents' characters, their interests, parents' educational methods, influence of brothers or sisters, economical situation of the family, their cultural and social background play important roles in here.

Adults can influence children's attitude to food in various ways:

- a) verbally when the food is served or beyond this time,
- b) non-verbally by giving an offer to taste or participate during food preparation,
- c) through individual nutritious behaviour,
- d) using food from other reason than only nutritious (as a reward).

Already in preschool years other social factors come to use in these terms. An influence of friends and other people we meet cannot be forgotten either. We must also mention the offer of good products on the market, especially so discussed pressure of commercials that is aimed at younger population. By having a child enter the school system, the wide range of influences grows by deliberate education, thematically concerning the right nutrition and adopting healthy eating habits.

Children come to elementary school with the eating habits that they formed in their family and kindergarten. They are used to certain daily eating and drinking regime. Their eating preferences and aversions are rather stable. They are usually used to the fact that there is no one to force them to eat and that they have a free access to drinks and sweets. In case they visited kindergarten they parents did not have to take care of when and what their children ate and drank during the day. By entering elementary school children gain information about the right eating habits. At the same time the school regime and eating in a school canteen gives them new experience connected with food. In any case, formation of the right nutritional habits at school is a demanding issue and it cannot be done without a close cooperation between the school and family.

2 Nutrition disorders in childhood

The lack of some nutrients or even their considerable surplus can have a negative influence on child's health and his physical and psychological progress in long terms. Nutrition that is beneficial to health of a child in early school years should be based on the following recommendations:

- Regular eating regime (five to six meals a day, proportionate in energy supply)
- Sufficient intake of fluids (milk, fruit teas, juice)
- Sufficient intake of proteins (meat three to four times a week, eggs two to three times a week, milk in the amount of 1/3 litre a day)
- Daily consumption of vegetable and fruit (three times a day)
- Including wholemeal bread, cereals and legumes, including soya
- Fat composition in favour to unsaturated fats
- Reduction of the intake of smoked products, tin products, fat, salty and piquant meals and sweets, including sweet lemonades
- Forming the desirable eating habits

The knowledge about the appropriate nutrition enables children to evaluate their existing way of eating in comparison with opinions and recommendations of experts and to consider possible risks of unsuitable eating habits. The older the child is the more often, and especially more precisely, he can influence and control his food intake. He focuses more on the taste. He associates food with new experiences, which can be either positive or negative. Based on this kind of connection the child starts to form his own menu and learns about the eating etiquettes, manages the basic hygienic habits connected with food. Still, in this period, the child depends on his surroundings (especially parents), that means on what the family can offer and what is accessible for the family.

In the last years podiatrists alerted to the trend of growing occurrence of overweight and obesity in childhood. For instance the researches from 2000 revealed that 7 % of children has overweight and 6 % suffers from obesity. Current data about the occurrence of overweight and obesity in Czech Republic in adult and children population are provided by the study “Lifestyle and obesity 2005”¹⁾. According to the published results, in the time the research was carried out, every fifth child at the age of 6 to 12 suffered from excessive weight. It concerned 10 % suffering from overweight and 10 % from obesity. These numbers are indisputably alarming. The fact to be considered is the reality that the highest proportion of children suffering from obesity is among seven-year-old children, which is the period of radical changes in their lifestyle as they start visiting elementary school.

It is obvious that with age the ration of individuals with excessive weight falls (in case of adolescents aged 13 to 17 it is 11 %). Concerning the aspect of health of children and adults this trend cannot be evaluated as convenient as at this age the issue comes into the opposite extreme – the number of children suffering from underweight rises. In case of girls the underweight ratio grows by 10 % and it is connected with the growing occurrence of mental anorexia and bulimia.

The main cause of overweight and obesity of children is the dropping quality of children’s’ lifestyle, which comes together with an unbalanced ration between the intake and outcome of energy. It usually concerns an excessive intake of carbohydrates and lack of exercise. Occurrence of excessive weight in a family, partly caused by genetic factors, plays an important role in here too. It is, however, caused especially by menu composition and the way of life. If the parents are overweight, the chance that the child will be overweight at the age between 6 and 12 too is twice as higher. This fact should be respected in prevention precautions. Obese parents, due to the higher risk of having overweight and obese children, should pay to their eating regime extra attention. They should realize that excessive body weight of children is not only a cosmetic issue, but it also has serious negative effects on metabolism, it overstrains bones, joints and vascular system. Unfortunately, in these families parents often (13 %) have an attitude that their child has a normal weight, even though, in fact, he falls under the category of children with overweight.

Long-term clinical studies have proved that regular sport activities of children cut down the probability of getting ill, keep the body weight in norm and have a positive effect on the mental state of a child. The recommended amount of exercise for children in school years is seven hours a week. It has been found that children of younger school age spend their free time doing more demanding physical activities for six hours and twenty minutes a week on average. Concerning older pupils the average time dedicated to more demanding physical activities goes down to less than five hours a week. Children spend most of their time in front of computers or television screens. Passive activities in free time and a lack of exercise together with consumption of highly energetic meals have a negative effect on children’s health conditions.

¹⁾ The study was processed by agency STEM/MARK for Czech Obesitological Institution, under the auspices of Ministry of Health of Czech Republic, Endocrinological Institution and Food chamber of Czech Republic in 2005.

3 Impact of school on nutritional behaviour of children

The need of implementing systematic education towards healthy lifestyle and taking care of health at schools is based on a long-term strategy of European program of health support and it is enrooted in valid school documents. In order to support healthy lifestyle in the area of school education it does not only mean to provide information about the principles of healthy nutrition, but it especially concerns raising them in a way that every individual would be able to choose such eating habits that are beneficial. A new approach of education to healthy eating habits at elementary schools should systematically address all the children, during all school year adequately to their age, interests and needs.

Education on the first level of elementary schools (according to the General program for elementary education) in the area of “Human and his health” leads pupils to acquiring what is suitable and unsuitable for a person in terms of daily regime, hygiene and nutrition, motivates children in an active participation in activities supporting health.

In direct connection to the volume of educational curriculum the school educational program should impact nutritious behaviour of children by ensuring their eating and drinking regime during the time that pupils spend at school. School canteen plays the key role in here, additionally an offer of other catering services.

In this context, we can address several fundamental questions: To what extent does the current school meets its educational targets in the area of health support? How does it influence its pupils’ nutritional habits? Can it support prevention of obesity in childhood?

4 Observing nutritional habits of children in earlier school age

In 2007 a research probe was carried out at Charles University in Prague – Pedagogic Faculty. The aim was to gain a certain picture displaying the orientation that children of earlier school age have in the area of healthy eating and their current eating habits.

The aim of the research investigation was to observe eating habits and attitudes to food of children at the age of 10 to 12:

- eating and drinking regime,
- preferences when making a choice in food and drinks,
- taking advantage of school catering and satisfaction with this service,
- children’s’ knowledge about healthy nutrition.

The research questions concerned parents and teachers too:

- What importance do parents attach to their children’s nutrition?
- How do parents evaluate the level of eating in a family and school?
- What attention do teachers of the first grade at elementary schools pay to education towards healthy eating habits?
- What is the level of knowledge of teacher of primary school in the given area?

In this research a method of questionnaire investigation was used. Eight elementary schools took part in this research investigation. The schools were addressed randomly and,

based on their interest, they were chosen in a way to gain summarized information about nutritional habits of children living in various environment (city, town, village). Among the schools that were willing to cooperate there were three schools that had engaged in the program “Schools supporting health”.

Number of respondents:

Pupils of the first grade of elementary schools (10 to 12 years)	624
Pupils’ parents	294
Teachers of the first grade of elementary schools	46

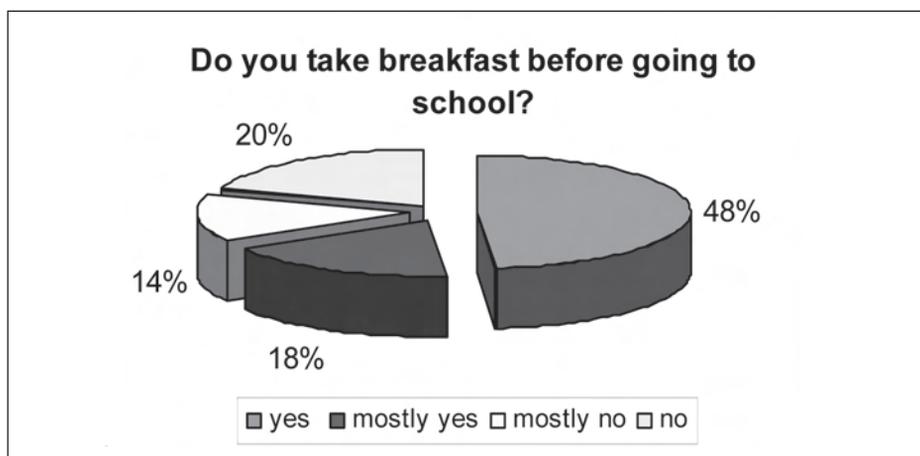
For every group of respondents there was a special type of questionnaires prepared. Pupils were asked to fill in the questionnaires during their lessons. Through them then the questionnaires were distributed to their parents. Based on the above stated summary of numbers of respondents, the returnability was only 47 %. The questionnaires that were aimed at pedagogues were filled in by the teachers of pupils that took part in the research.

5 Selected results of the research investigation

Due to the extent of research probe, only some interesting results are presented in the following overview of results.

a) Do you have breakfast before your leave for school?

In connection with the prevention of obesity the issue of irregular eating is addressed, especially the one concerning skipping breakfast.



Based on the chart we can see that 66 % of the questioned children have breakfast at home. The children who do not eat before leaving for school expressed their reason of having distaste or not enough time for doing so. By comparison it was found that 14 children out of the observed group do not even have a snack in the morning. Further on it came out that boys have breakfast more often than girls.

b) What do you buy in a school snack bar (food machine) most often?

In all observed areas there was a school buffet available. To illustrate nutritional preferences of children in earlier school years, which can be linked to the problems with child obesity, the answers to the question “What do you buy in a school snack bar most often?” are summarized here.

Based on the answers it is obvious, that children in early school years are rather consumers of sweets, biscuits or salty crisps in the morning hours, but also the reality that children spend the money that their parents have gave them to buy themselves a snack. The chart also displays what sort of products is offered in school buffets in schools where the research took place. To what extent can school influence this fact in terms of education towards the suitable nutritional habits?

c) Do you eat in school canteen? If yes, do you like it?

By a few questions we observed the use of school catering and tried to find out about the respondents opinions on it. Out of the whole number of respondents 88 % of children eat in a canteen. The evaluation of answers to the question of “Do you like the food in the school cafeteria?” is displayed in the following chart.

It is pleasant that children of school age usually like the served meals. 87 % of children expressed utter satisfactions with the canteen environment.

Children had the chance to state, through an open answer, what they would improve in terms of school catering. Here are some of the most frequent answers stated. They were evaluated according to the decreasing frequency of occurrence in this way:

- to expand the offer of served meals,
- to clean the dishes better, especially the trays,
- to serve bigger portions,
- to offer more fruit and vegetable,
- to prepare less fattening meals,
- to serve cold drinks with lunch,
- to replace the cooks (they scream and communicate with children in unsuitable ways),
- not to make mashed potatoes from raw products.

d) How often do you eat the following types of food?

The results concerning the composition of a menu are stated in the following table:

How often do you eat the following sort of food (stated in %)?

	daily	3times a week	once a week	rarely	never
meat	36.9	36.9	16.5	9.7	0
smoked products	19.3	32.5	21.0	27.2	0
fish	0	11.4	19.3	51.8	17.5
fast-food	7.0	33.3	25.4	27.3	7.0
fruit	57.9	25.4	7.0	9.7	0
vegetable	36.9	33.3	11.4	16.8	1.6

Based on the table it is clear that consumption of fruit prevails consumption of vegetable. Fortunately, more than half of the respondents eat fruit daily. The most favourite type of fruit they stated was apples (possibly because they are the most common type of fruit in our country), then oranges, mandarins, bananas, strawberries, grapes and others.

Concerning vegetables, we can claim that about 70 % of children eat vegetables at least three times a week. Taking in terms the nutritional recommendations, this is a fact that is not satisfactory. The most favourite vegetables were carrots, cucumbers, tomatoes, sweet peppers, lettuce.

Based on the results it is also obvious that most of the respondents consume meat daily or three times a week. The answer “never” was not ticked at all, which means that there was no child, among the respondents, that would be a vegetarian.

Consumption of fish is low. More than a half of the respondents have fish less than once a week and many children even ticked the option “never”. This finding is, no doubt, a challenge for pedagogues to motivate children to add fish into their menu in terms of education.

Unfortunately in terms of smoked products the opposite extreme was discovered. A fifth of the respondents marked the answer that they eat smoked products on a daily basis. This fact is also a fundamental problem in eating habits of children.

e) Other nutritional preferences

The picture about nutritional preferences of children in early school years is completed by the following findings:

68 % of respondents get sweets anytime they ask for them. Children especially like the taste of the sweets (95 %). Only 13 % of children consider the packing when choosing a product. 91 % of children stated that they buy sweets themselves. When answering the question “What would be the most tasteful thing you would buy if you got some money for it?” they said: chocolate (32 %), biscuits (18 %), sweets (18 %).

f) Parents’ opinions

Parents were asked, apart from other questions, if they think that their child has enough knowledge about correct nourishment. Almost three quarters of parents are sure of good awareness of their children (74 %), which they have provided themselves. The fact that only half of them mentioned school as a source of instructions proves that many parents are not interested in the present volume of school education.

An interesting finding was based on the following question: “Are you a good example to your child in terms of eating habits?” Only 58 % of parents think that they are a good example for their children. All the others (less than a half of the respondents) admitted that they do not follow the principles of healthy eating and therefore they are not a good example for their children. Surely this condition can be a complicated obstacle in leading pupils towards correct nutritional habits by teachers.

g) Pedagogues’ answers

One of the questionnaires was aimed at teacher of primary schools. Only women took part in the research investigation. They were asked a similar question: “Are you

a good example to your pupils in terms of eating habits?” The evaluated answers were alarming. Only 18 teachers (40 %) are confident in being a good example to their pupils. The same number of respondents admits the opposite, that means that 40 % admitted that they are not a good example for their pupils with their attitudes. The rest of them, 20 %, is not able to judge.

Leading children towards healthy eating habits must be done systematically, with being aware of the meaning of health protection, and especially by giving a personal example. Pedagogues of the first grade at elementary schools are an important authority and example for children. They have a great opportunity to impact pupils in the area of nutrition and prevention of obesity. Here is a small example: If a teacher eats (in front of his pupils) fruit, vegetable, milk products and others, he has a positive effect on the children (children’s taste is inspired by the food that they see at somebody else). If the teacher succeeds in motivation of children at early age (healthy eating and active use of free time) they will be more likely to resist the negative influences in consumption society, which can have a negative impact on their health.

4 Recommendations for forming a school educational program

It is proven that if the teacher has a general knowledge about eating habits during the preparations and realization of the program, he is able to develop these skills more effectively and, if the need arises, he is able to affect children’s attitudes to food and eating habits.

The results gained through the research can be helpful to teachers of primary schools when leading children towards healthy eating. If analogical investigation is carried out by pedagogues at school where they teach, they gain valuable data, which will enable them to impact their pupils’ eating habits in a positive way.

Based on the above described research investigation it is possible to form fundamental recommendations for implementing education towards correct eating into school curriculum:

- Leading to the correct eating habits should be spontaneous, natural and in terms of everyday routine.
- Learning about healthy eating should be included into thematic plans of all elementary school levels as a part of education to health.
- Education towards the correct eating habits should be carried out through interactive methods, support self-confidence and social conception of pupils.
- To ensure the conditions for effective education of physical education in order to develop to health orientated abilities.
- To map children’s nutritious habits – enable to keep eating and drinking regime (school breaks).
- To ensure drinking regime of pupils – events like “school milk”, offering quality drinks, careful about the sort of drink machines.
- To motivate parents and pupils towards using nutritiously balanced school catering.
- To create peaceful and cultural environment for catering in school canteens.

- To support positive social climate when serving food through good organization.
- To offer pupils to get involved into leisure physical activities.
- To cooperate with parents of pupils that suffer from obesity in a sensitive way and with erudition.
- To provide support to children when coping with problem connected with food intake disorders.
- Organize long-term projects at school, which would support health and healthy nourishment, cooperate with families and community.
- To provide promotion of all that school in terms of healthy nourishment and education towards correct eating habits.

Efficiency of fulfilling the targets that school has for correct eating definitely lies in the hands of pedagogues. It concerns demanding educational action, that is why there is a need to enable the teachers of primary schools to gain systematic education in the area of health support. The issues of healthy lifestyle, including forming of nutritional behaviour, should be implemented into study programs of presentational and combined studies at all pedagogic faculties.

K NOVÉMU POJETÍ VÝCHOVY KE ZDRAVÝM STRAVOVACÍM NÁVYKŮM V PRIMÁRNÍ ŠKOLE

Abstrakt: Příspěvek je zaměřen na úlohu školy při formování nutričního chování dětí mladšího školního věku a současnou edukační realitu v oblasti výchovy ke zdraví v primární škole. Předkládá výsledky výzkumných studií řešených oddělením výchovy ke zdraví na Univerzitě Karlově v Praze – Pedagogické fakultě, v nichž byly sledovány nutriční preference žáků 1. st. ZŠ a jejich znalosti o výživě a zdravém životním stylu. V návaznosti na odhalené problémy (nezdravé stravovací návyky vedoucí k obezitě, ohrožení poruchami příjmu potravy) obsahuje doporučení, jak mohou učitelé primární školy prostřednictvím školních vzdělávacích programů zkvalitnit své působení v oblasti podpory zdravých nutričních návyků. Věnuje se pozornost nutné úpravě obsahové náplně modulu výchovy ke zdraví ve studijním programu učitelství pro 1. st. ZŠ na pedagogických fakultách

Klíčová slova: zdravá výživa, školní vzdělávací program, výchova ke zdraví, vzdělávání učitelů