

ONGOING UNHEALTHY TRENDS IN EATING OF OLDER PUPILS

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Abstract: *In the project “Healthy school” doing their nutritional intervention the authors of the article found some “old/new” facts in the nutritional status of 15-year-old pupils. By repeated nutritional evaluation of elderly pupils in 2010 there were observed unfavorable trends in their nutrition in comparison with 2005. Number of boarders was lessened in school canteens; pupils have their dinner at home because of convenience or economic reasons. In the 2010 there is the alarming evidence that 25 % of school-girls in the evaluated group have no dinner and that the other girls have their dinner in the afternoon or in the evening. In the evaluated group 88.9 % of school -boys and 72.7 % school-girls have some breakfast. However, almost half of the school-girls refused both snack and brunch. Number of basic meals per day was decreased: the school-boys has 4-5 the basic meals per day; the pupils-girls have 3-4 small meals per day. The school-boys in the studied group do behave more couscous though. The elderly school-girls has a worse behavior, which probably results from their adolescence. The stated facts urge the need to continue in nutritional intervention in this population group. There is need to rely on results from last years, the 5-year interval of the repeated evaluations of nutritional behavior of elderly pupils illustrated changes in nutritional behavior of pupils. A collaboration of experts from different regions may confirm or deny the finding of authors of the article.*

Key words: *elderly pupils; nutritional status; nutritional behavior; unhealthy trends*

Introduction

Cardiovascular disease, obesity, osteoporosis, and other “civilization diseases” are diseases that develop years to centuries and are often the result of improper nutrition in childhood or youth. Adopt good habits in childhood is considered one of the most effective forms of prevention nutritionally conditional diseases.

The increase in obesity reaches over the past two decades years of epidemic proportions in many countries. This trend also applies to children and is a harbinger of serious health complications in adulthood. Up to 96 % of cases is obesity caused

by improper diet, lack of exercise combined with (epi) genetic factors. Results of the study “The current state of nutrition and obesity in children aged 6-15 years in selected regions of Slovakia”, which ran in the year 2007, highlighted deficiencies in children’s eating habits, which may be reflected in the child’s health and increase the risk of lifestyle diseases.

In general, when considering the dietary regime is determined by the number of daily meals, frequency of consumption (usually daily, several times a week, irregularly, rarely ever), and type of diet (collective, individual, combined, at home, in canteens, in the cafeteria, in hot or cold treatment).

Distribution of food for more meals during the day to ensure a balanced income and better use of nutrients in the body. Diet is the right catering rhythm, proportionality of daily meals, depending on the age and energy uptake. The optimal regimen is five daily meals, especially for older students and adolescents.

While solving the tasks in the grant project “VEGA” ME SR (since 2004) in collaboration with the Faculty of Medicine, Safarik University in Kosice results of our evaluation of the eating habits of children, adolescents, college students but also highlight and find solutions to the consequences of unhealthy trends in their diets. Based on the disappointing results of our work has repeatedly Department of Hygiene - Department of Public Health Jessenius Faculty of Medicine in Martin investigates mentioned vulnerable population groups, and monitor the development of adverse changes in eating habits in particular groups of young adolescents, pupils 9th classes and evaluate the effectiveness of nutrition interventions.

Contribution (work) re-mapping and analyzing the eating habits of young adolescents (15-year-old) - pupils 9th classes of Elementary school in Martin and compares the results of the year 2005 vs. 2010.

Materials and methods

Evaluated a set of young adolescent - pupils accounted 9th selected elementary school classes in Martin. In 2005 set of $n = 59$ girls and $n = 41$ boys aged 15 years, in the year 2010 with a pole 100 pupils (15 years) of the girls $n = 55$ and $n = 45$ boys. The methods for monitoring food consumption, we used a method aimed at the frequency of consumption of selected foods - the six basic food groups (food frequency), which reflects long-term nature of the diet. Through an anonymous questionnaire, we asked students on the usual number of “frequency” of six basic food groups during the day in their diet, which correspond to the recommendations of a healthy diet. Diet: the number of main meals during the day and diet (home, school cafeteria), the second part of questions in the questionnaire. The results were evaluated using descriptive statistics.

Results and discussion

Frequency servings (portions) of the basic food groups in the diet of students usually occurring during the day was evaluated using a modified food pyramid. In **Tab. 1** and **Tab. 2**, we have seen food preference groups (number of servings / day)

for pupils 9th classes in the year 2005 and in **Tab. 3** and **Tab. 4**, the incidence of staple foods in the diet of pupils 9th classes (girls and boys) in the year 2010.

Tab. 1 Incidence of cereals, milk and milk products in diet of pupils (15-year-old) in Martin, Slovakia (in 2005)

Food group	Number of servings per day	Boys (n=41) %	Girls (n=59) %
CEREALS (Bread - slice, roll - 60g, pasta, rice and legumes - to 125g) (min. RDI* - 4 servings)	≥ 4	51.2	5.1
	3	48.8	86.4
	2	0	8.5
	1		
MILK (250ml), CHEESE (50g) and MILK PRODUCTS (150g) (min. RDI- 3 servings)	≥ 4	4.9	0
	3	73.2	67.8
	2	19.5	16.9
	1	2.4	15.3

*RDI – recommended daily intake

Tab. 2 Incidence of fruit, vegetables, meat, fats in diet of pupils (15-year-old) in Martin, Slovakia (in 2005)

Food group	Number of servings per day	Boys (n=41) %	Girls (n=59) %
FRUIT (100g, 250ml juice) (min. RDI* - 2 servings)	2	48.8	59.3
	1	51.2	40.7
VEGETABLES including potatoes (100g) (min. RDI- 3 servings)	2	7.3	16.9
	1	85.4	69.5
	0	7.3	13.6
MEAT (50g) and EGGS (50g) (min. RDI- 2 servings)	2	61	32.2
	1	39	52.5
	0	0	15.3
FATS (20g) and SWEET (50g) (min. RDI- 1 serving)	3	24.4	78
	2	75.6	22

*RDI – recommended daily intake

Tab. 3 Incidence of cereals, milk and milk products in diet of pupils (15-year-old) in Martin, Slovakia (in 2010)

Food group	Number of servings per day	Boys (n=45) %	Girls (n=55) %
CEREALS (Bread - slice, roll - 60g, pasta, rice and legumes - to 125g) (min. RDI* - 4 servings)	≥ 5	28.9	0
	4	33.3	29.1
	3	31.1	30.9
	2	6.7	40
MILK (250ml), CHEESE (50g) and MILK PRODUCTS (150g) (min. RDI- 3 servings)	≥4	20	0
	3	22.2	25.4
	2	42.2	45.5
	1	15.6	29.1

*RDI – recommended daily intake

Tab. 4 Incidence of fruit, vegetables, meat, fats in diet of pupils (15-year-old) in Martin, Slovakia (in 2010)

Food group	Number of servings per day	Boys (n=45) %	Girls (n=55) %
FRUIT (100g, 250ml juice) (min. RDI* - 2 servings)	4	11.1	18.2
	3	20	16.4
	2	53.3	40
	1	15.6	25.4
VEGETABLES including potatoes (100g) (min. RDI- 3 servings)	2	20	40
	1	60	49.1
	0	20	10.9
MEAT (50g) and EGGS (50g) (min. RDI- 2 servings)	3	31.1	21.8
	2	42.2	30.9
	1	26.7	47.3
FATS (20g) and SWEET (50g) (min. RDI- 1 serving)	3	40	9.1
	2	51.1	60
	1	8.9	30.9

*RDI – recommended daily intake

In **Fig. 1** we compare the most frequent occurrence (frequency), the basic food groups portions per day, dietary prefer girls 9th classes between 2005 and 2010. We evaluated the % of girls who daily consumed at least 3 servings of cereal. In 2005 to 3 servings of cereals consumed 86.4 % of girls, but in the year 2010 only 30.9 % of schoolgirls. It also reduced the consumption of milk and dairy products: in 2005 - at least 3 servings of it and 67.8 % in the year 2010 - only 2 portions usually consumed 45.5 % of girls. The fruit was no difference in the minimum number of servings rated between years: 2 servings have been reported in 59.3 % of schoolgirls (2005) and in 2010, 40 % of girls. Consumption of vegetables (in 1 portion) in the year 2010 (49.1 %) versus r. 2005 (69.5 %) decreased in girls. Recommended minimum of 3 servings / day of vegetables (300g/deň), including potatoes, are not seen in girls. Sweets girls ate 3 servings more often in 2005 (78 %) in the year 2010 60 % of girls consumed 2 servings (2 x 50g).

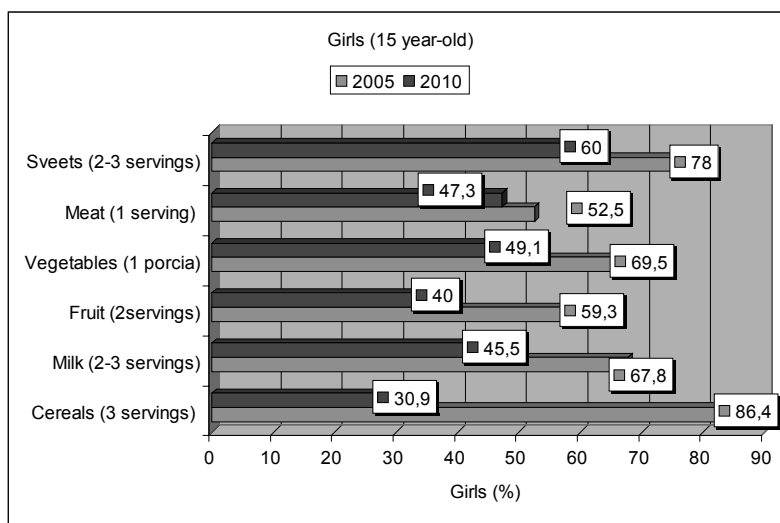


Fig. 1 Frequency of the base food / day in the diet of older girls of 9th classes (2005 vs. 2010)

Diet pupils 9th classes (girls and boys), eating three main meals during the day (breakfast, lunch, dinner) was recorded in **Tab.č.5** and comparison of 2005 vs. 2010 illustrated graphically in **Fig. 2** and **Fig. 3**.

Tab. 5 Diet of pupils (15-year-old) from Martin, Slovakia – a comparison of 2010 vs. 2005

Year	Girls (%)		Boys (%)	
	2010	2005	2010	2005
Number	(n=55)	(n=59)	(n=45)	(n=41)
Breakfast	72.7	84.7	88.9	95.1
Lunch at school	45.4	16.9	75.6	51.2
Lunch - snack	29.1	67.8	24.4	48.8
No lunch	25.5	15.3	0	0
Dinner	61.8	86.4	100	100
Total meals /day	3 – 4	3 – 4	4 – 5	4 – 5
% of pupils	80 %	84,7 %	76,7 %	92.7 %

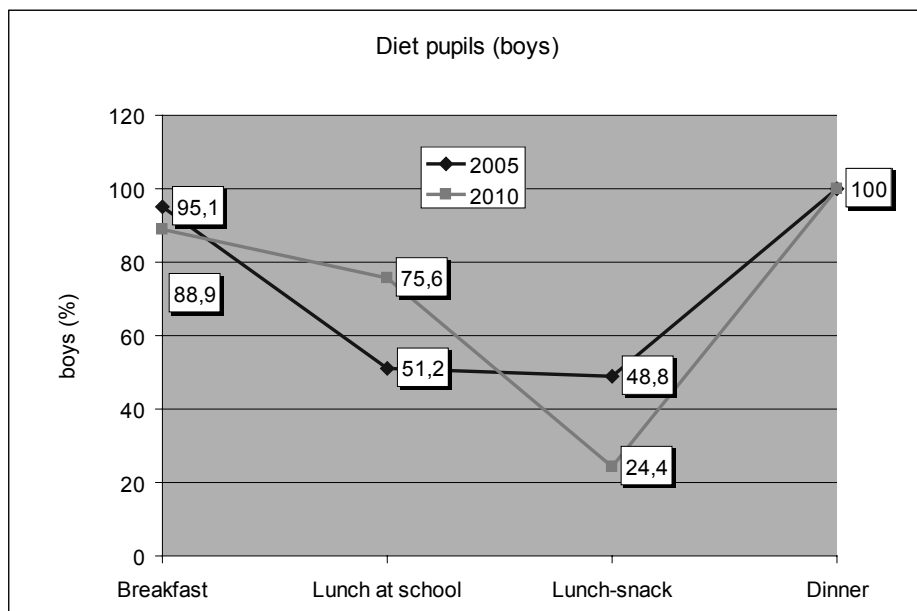


Fig. 2 Diet pupils (boys) of 9th classes - a comparison between 2005 and 2010

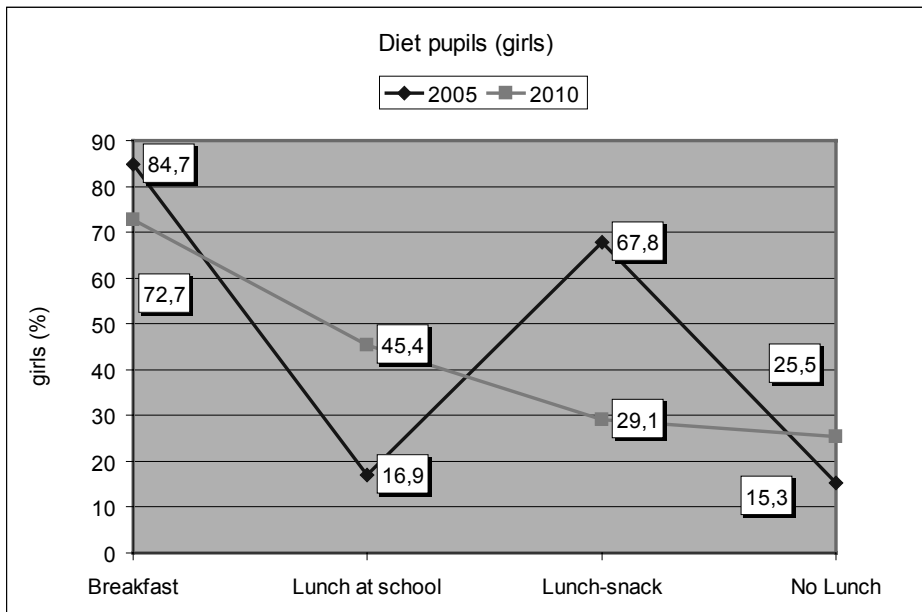


Fig. 3 Diet pupils (girls) of 9th classes - a comparison between 2005 and 2010

In **Fig. 2** we evaluated the diet of pupils (boys) 9th classes. We have had a significant decrease boys who have their breakfast (95.1 % in 2005; 88.9 % in the year 2010). Positive growth was evaluated boys who eats in the school of 51.2 % (in 2005) to 75.6 % (in 2010) and decreasing % of boys who eats lunch at home at the time of snack 48.8 % (in 2005) to 24.4 % (2010). Dinner had 100 % of students in both years studied. Similarly we in **Fig. 3** evaluated the diet and in girls. Although breakfast is the most important meal of the day, the number of girls who have breakfast decreased from 84.7 % in the year 2005 to 72.7 % in the year 2010. Positive growth was of girls who have lunch at school (from 16.9 % in the year 2005 to 45.4 % in the year 2010) and reduced the number of girls who eat lunch at the time snack from 67.8 % in the year 2005 to 29.1 % in 2010. In contrast, in the year 2010 increase in negative % girls have no lunch (25.5 % in the year 2010 compared to 15.3 % in 2005).

Summary

According to WHO recommendations, the occurrence of the basic food groups (cereals, vegetables, fruit, dairy, meat and eggs, fats and sweets direct) in the diet during the day, displayed in a modified food pyramid healthy eating for pupils investigated a group of ninth classes - a group of younger adolescents, a healthy eating pattern. In repeated studies in our group of pupils ninth classes in the year 2010, dietary habits and preferences of the basic food groups are constantly changing and tend to fluctuate from recommendations. We have seen a lower frequency of meals (number of servings) from the group of cereals and meat, as well as lower consumption of nutritionally important dairy products and vegetables during the day for both sexes.

Repeated evaluation of the diet of younger adolescents (pupils of 9th classes of Elementary school in Martin) in the year 2010 and comparing the 2005 has seen an increasing number of pupils, who eat lunch in school canteens, but steady decline number of pupils (of both sexes), that have their breakfast. Instead of using the school breakfast buffet for the purchase of chips, sweets and sweetened waters. Range of goods in the cafeteria while no satisfies the requirements of a healthy diet of schoolchildren. On the basis of repeated findings suggest the diet of young adolescents in particular, to increase the intake of milk and milk products, vegetables and cereals as well as meat consumption reduced. Stricter controls and legislation to treat the sale of unhealthy foodstuffs in the school cafeteria. Increase promotion of lunches in school canteens, to not leave the lunch to snack or to dinner. The prevention of obesity and chronic noncommunicable diseases will mainly focus on education about nutrition, not only among students but also parents!

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POKRAČUJÚCE NEZDRAVÉ TRENDY V STRAVOVANÍ STARŠÍCH ŽIAKOV

Abstrakt: V rámci projektu - Zdravá škola a počas nutričnej intervencie žiakov základných škôl autori príspevku zistili určité „staro/nové“ skutočnosti v stravovacom režime 15ročných žiakov. Opakovaným hodnotením starších žiakov 9. tried v r. 2010 a porovnaním s r. 2005 v sledovanom súbore zaznamenali nepriaznivé trendy v ich stravovaní. Znižuje sa počet stravníkov v jedálňach základných škôl; žiaci z pohodlnosti, ale i z ekonomických dôvodov obedujú doma. V r. 2010 sa opakuje alarmujúca skutočnosť, že až 25 % dievčat neobeduje vôbec, ostatné presúvajú obed do tzv. „olovrantu“ a do večere. Raňajky konzumuje 95 % chlapcov a takmer 85 % dievčat, avšak desiatu a olovrant odmieta takmer polovica dievčat. Znižuje sa celkový počet hlavných jedál počas dňa. Chlapci - žiaci 9. tried sa v sledovanom súbore paradoxne chovajú uvedomelejšie, ich frekvencia denných jedál je v rozpätí 4-5 jedál. Dievčatá prejavujú maniere plynúce pravdepodobne z pubertálneho vývoja, ktoré v minulosti boli zaznamenané u stredoškolskej mládeže. Malé jedlá konzumujú 2-3x denne, praktizujú módné typy diét pod tlakom nezdravej reklamy nevhodných potravinových výrobkov a doplnkov výživy. Uvedené skutočnosti nabádajú k nutnosti pokračovať v nutričnom poradenstve (intervencii) tejto populačnej skupiny. Netreba sa spoliehať na výsledky z ostatných rokov, päťročný interval opätovných hodnotení stravovacích zvyklosti starších žiakov naznačil zmeny v nutričnom správaní žiakov. Spolupráca odborníkov z rôznych regiónov môže potvrdiť, alebo vyvrátiť zistenia autorov príspevku.

Kľúčové slová: starší žiaci, stravovacie návyky, nezdravé trendy v stravovaní