

Rational consumption of nutrients at school-aged children

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Abstract. Nutrition lies at the basis of life being a factor of permanent action by which the individual, respectively small or large communities have ensured their survival in relation to the environment. Food represents a natural component which provides the energy and the vitality of the body and helps preserve people's health and welfare. Rational nutrition is closely related to the physical and mental development of the young persons, to the adults' work capacity, to the maintaining, as long as possible, of the elderly's health condition, to the prevention of some acute and /or chronic diseases.

1. Introduction

Studies in specialized literature [1] point out that poor nutrition is one of the major causes of the appearance and onset of several chronic degenerative disease [2] such as obesity, diabetes or atherosclerosis. Poor nutrition [3] does not refer only to the abundance or, on the contrary, to the lack of some of the nutritive principles, but also to the food industry technology which has brought a number of changes in human nutrition, thereby creating the premises for nutritional imbalances [4].

One may bring into discussion whether today's young people have a healthy lifestyle, whether today's adults had a truly healthier lifestyle in their childhood and to what extent the abundance of food and fast food products has damaged the quality our children's lives. It is essential to know the principles of a proper nutrition under any life circumstance, depending on age, physiological condition, work, in health and in sickness [5].

Knowing the types of foods and their nature, the nutritive principles and the nutritional ratio, the physiological changes of foods in the body [6], people's health condition and the way foods preserve it as well as setting up a rational and dietetic menu for a healthy person represent essential elements for a healthy lifestyle. All of the above reasons have urged us to set up this exploratory study that we shall present bellow.

2. Material and method

The study was done in several schools from Bihor County, Romania, using the questionnaire method. The aim was to present and highlight the dangers posed by poor nutrition in young people. For this exploratory study, we applied a questionnaire with 26 questions to some school-aged children from Oradea and from the rural area of Bihor County.



The questionnaire, in its form, is divided into two sections. The first section contains questions related to the demographic data used to analyse results as well as more general questions. The second section contains direct questions related to nutrition.

The sample we worked with included 416 children, being an opportunity sampling, a type of non-probability sampling.

3. Results and Discussions

From the total of 316 of subjects, 218 of the respondents were female and 198 males, 241 from urban areas and 175 from rural areas.

The distribution of respondents by age is shown in Figure 1, the distribution of respondents by age groups is shown in Table 1 and the distribution of respondents by gender is shown in Figure 2.

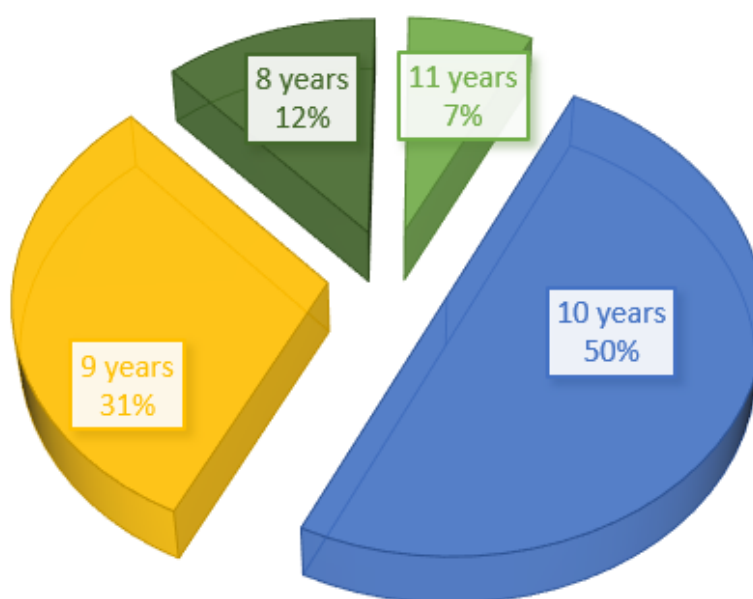


Figure 1. The distribution by age of the respondents from the sample

Table 1. A slightly more complex table with a narrow caption.

Age group (years old)	Male		Female		Total	
	No.	%	No.	%	No.	%
11	14	7.08	15	6.88	29	7
10	97	48.98	111	50.91	208	50
9	63	31.82	66	30.27	129	31
8	24	12.12	26	11.92	50	12
Total	198		218		416	100

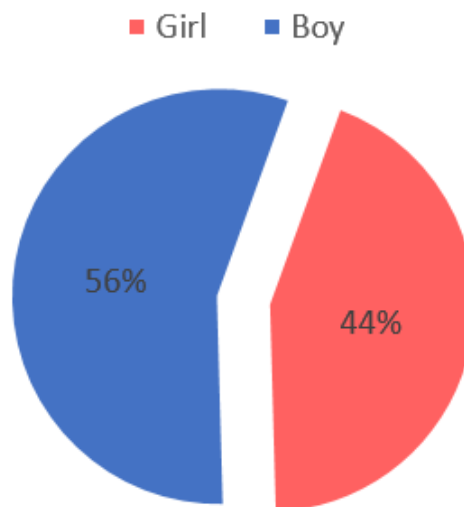


Figure 2. Distribution by gender in the studied sample

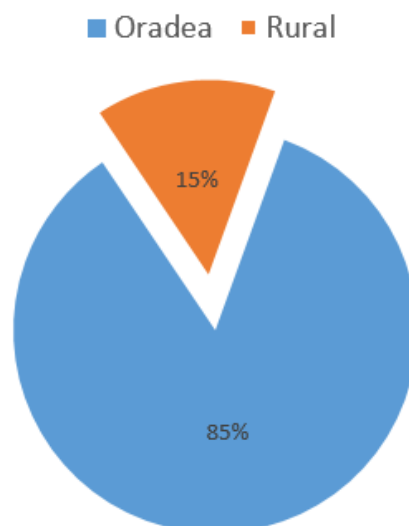


Figure 3. Distribution by background

One can notice that respondents to this questionnaire are children aged between 8 and 11. Our study aimed to clarify an important aspect related to child nutrition in Bihor and to children's adopted, respectively imposed lifestyle.

The child at this age is not aware of the true values of food. This requires proper education on nutrition problems from parents, school and mass media as to ensure a healthy diet. In this questionnaire children were asked whether they eat fruit, vegetables, sweets and of course, fast food products, respectively the frequency of consuming these types of food. Figure 4 shows the consumption of fruit for the questioned children.

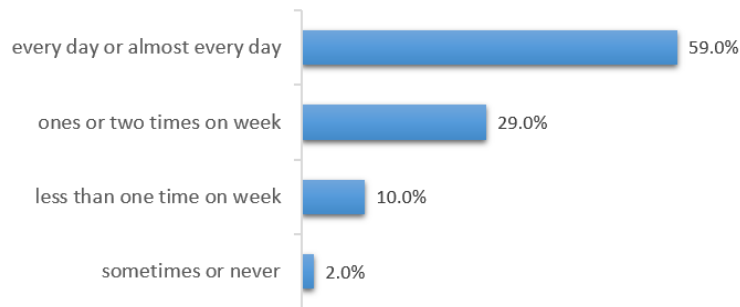


Figure 4. Fruit consumption

One can notice that the majority of children (59%) from the studied sample consume fruit every day or almost every day. The percentage of those who do not consume fruit on a daily basis is very small, only 2%. Fruit are rich in antioxidants and fight the oxidative stress that ages the cell, damages the DNA and predisposes the body to disease.

Fruit also contain fibres, necessary for the proper functioning of the bowel, as well as vitamins, necessary for a harmonious development of the children's body. Figure 5 shows the vegetable consumption of the questioned children.

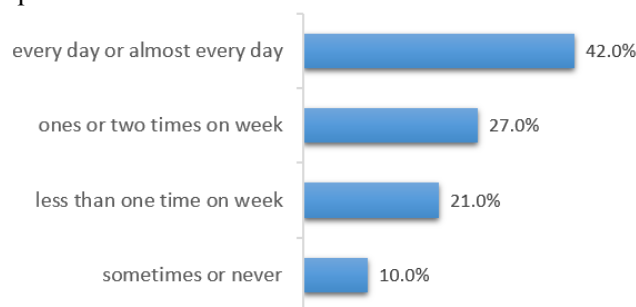


Figure 5. Vegetable consumption

Responses to the questionnaire show that 42% of the children have vegetables in their meals every day or almost every day, but a quite significant percentage of children (10%) has a diet without these very important nutrients. Vegetables play an important role in nutrition, being a source of vitamin A and C, folic acid, minerals, protecting the body and defending it against various diseases.

Vegetables are rich in water that contains concentrates of nutritional elements in the exact amount required by the human body. Figure 6 shows the consumption of sweets.

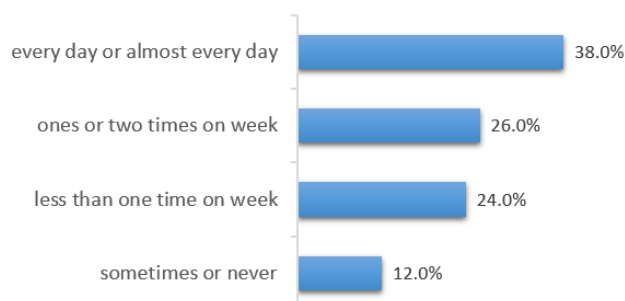


Figure 6. Consumption of sweets

Analysing children's answers one may notice that their nutrition is quite rich in sweets (38%). A small percentage (12%) admits not having introduced sweets in their diet. However, children enjoy

sweets; we can say that sweets are their first choice. Sweets are unhealthy primarily because of the contained E numbers and preservatives, but also because of the high sugar content. Sugar-based products lead to an altered lipid profile, atherosclerotic plaques, increased risk of coronary heart disease and cardiovascular dysfunction, rapid rise of the blood sugar concentration, followed by an increased insulin secretion.

The content of caffeine and theobromine in chocolate has stimulant effects on the central nervous system. The beneficial effect of the antioxidants, contained in sufficient quantities in dark chocolate, must also be mentioned here. However, there are sugar-based products such as cakes, ice creams and chocolate that contain milk, butter, dried fruit and oilseeds and that provide some of the nutrients that are necessary for the body. Even here moderation is necessary. Figure 7 shows how frequent the questioned children eat fast food products.

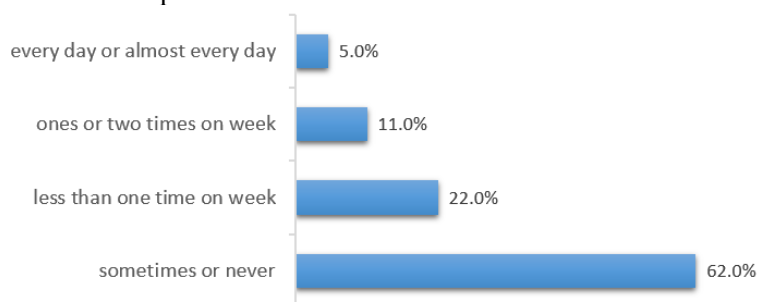


Figure 7. The frequency of eating fast food products

The results of the study reveal that only a relatively small percentage of children (5%) eat fast food products daily, and a high percentage of the questioned children (62%) is not used to consuming these foods. The term fast food or junk food usually describes foods rich in calories, salt, fat, but low in nutrients. This combination can produce, in a short time, changes in appearance, overweight, acceleration of the metabolic processes, insulin resistance, dyslipidemia, diabetes.

If we take into consideration the fact that the main predictors of health through nutrition and, in this case, of the happiness of the children from Bihor “a healthy child is a happy child” seem to be: fruit consumption, sweet consumption, fast food consumption, vegetables consumption, we can say, by extrapolation from the studied sample, that the children from Bihor are healthy-happy.

Figure 8 shows the results of the study in terms of children’s health, thanks to nutrition, and their degree of satisfaction regarding food and nutrient consumption in accordance with their age and occupation as pupils in schools from Bihor County.

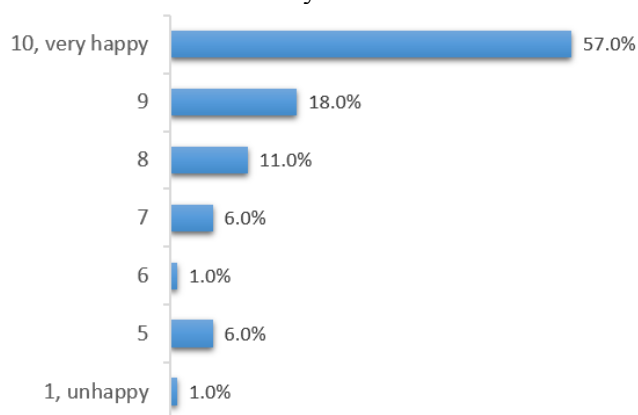


Figure 8. How healthy, thanks to nutrition, and therefore happy are the children from Bihor?

4. Conclusions

In conclusion to the above mentioned issues, one may notice that a large number of children (57%) can be considered healthy and thus happy as far as nutrition is concerned.

One may notice that questioned children have a proper consumption of healthy foods such as fruit and vegetables.

Questioned children admit the pleasure of consuming sweets and this is a good thing as long as sweets are consumed in moderation.

Consumption of fast food products is not yet characteristic to the studied sample, even if advertisements for these products are aggressive and present everywhere.

References

- [1] White A et. al 2011 Use of Qualitative Research to Inform Development of Nutrition Messages for Low-income Mothers of Preschool Children, *Journal of Nutrition Education and Behavior* **43**(1)
- [2] Roşu S T and Popescu S I 2008 *The therapy of acute pediatric pain. Drug use, abuse and dependency*, Editura „Grigore T Popa”, Iaşi, Romania
- [3] Graur M and Societatea de Nutriție din România 2006 *Ghid pentru Alimentația Sănătoasă*, Editura Performantica, Iasi, Romania
- [4] Negrişanu G 2005 *Tratat de nutriție*, Editura Brumar, Timisoara, Romania
- [5] Mincu I 2007 *Alimentația dietetică a omului sănătos și a omului bolnav*, Editura Enciclopedică, Bucuresti, Romania
- [6] Simu D, Roman G and Syilagyi I 2001 *Ghidul nutriției și alimentației optime*, Editura Dacia, Cluj-Napoca, Romania