

## **„UPS AND DOWNS” IN THE LOCAL IMPLEMENTATION OF NATIONAL PROGRAMS AND INTERVENTIONS FOR PROMOTING HEALTHY EATING AND PHYSICAL ACTIVITY IN SCHOOLS AND KINDERGARTENS IN BIHOR COUNTY**

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### **Abstract**

*Food represents a constant challenge and concern of health professionals, of those who work in the food field, of teachers and educators in schools and kindergartens, and of the decision-makers regarding the cross-sectoral collaboration for a better state of health of the population. Many diseases can be prevented or their onset may be delayed, through a few changes in lifestyle, consisting essentially of adopting a healthy diet, water consumption and promoting physical activity. The alignment of the Romanian legal framework with the European Union requirements led to the approval of the school nutrition programs in educational establishments, initially centered on the distribution of milk and bakery products (sub roll), subsequently adding the fruits (apple) and implementing educational measures to complete the distribution program. These programs have responded to a social need, promoting the consumption of dairy products, bakery products and fruits, ensuring a daily snack, for children and adolescents, but it also have disadvantages related to waste, the monotony of a snack and dysfunctions in the food distribution chain. Through the national program of evaluation, promotion of health and health education, some of the preschoolers and pupils have access to correct information, appropriate to the age and level of understanding regarding healthy nutrition, water consumption, benefits of physical activity, behaviors at risk for health, all being fundamental components for a healthy lifestyle.*

*The evaluation of the interventions for the implementation of the county action plans for healthy eating and physical activity in children and adolescents within the National Program of Evaluation, Promotion of Health and Health Education, has been successfully implemented in Bihor County (2014 – 2019).*

**Key words:** public health, eating behavior, food, educational programmes

### **INTRODUCTION**

Nutrition, a major component of the individual's health, has an impact on public health and on the level of socio-economic development of communities.

What „preschoolers and schoolers are eating in educational units” represents a constant challenge and concern for the health professionals and other professional categories: those who work in the food field, regarding

the marketing of quality and "safe" products for health, of the teachers in the education process and learning of the young generation, of the decision makers regarding the legislative framework that regulates healthy eating and the optimal conditions for serving meals in the educational establishments.

There is undeniable scientific evidence that a healthy diet, calorically and nutritionally balanced, is the basis of the harmonious growth and development of the human body, contributing to the well-being of the individual, in order to prevent many chronic diseases, that represent a major threat today. Thus: overfeeding, shows the growth of incidence of diseases such as diabetes, obesity, various tumors, cardiovascular diseases, with major impact on the health and well-being of the individual but also on the public budget. On the other hand, child malnutrition and anemia among children are another challenges facing the health system.

Many of these diseases can be prevented or their appearance may be delayed by some changes in lifestyle, consisting essentially in adopting a healthy diet, water consumption and promoting physical activity. Behavior regarding nutrition, water consumption and physical activity should be cultivated through education, as early as possible.

#### **MATERIAL AND METHOD**

In order to improve feeding habits in children, Romania has adopted European models in accordance with the provisions of the European Union, (EU) Regulations of the European Parliament and of the Council amending the (EU) Regulations, regarding the aid scheme for the provision with fruits and vegetables, bananas and milk, of the educational institutions. The alignment of the Romanian legal framework with the EU requirements led to the approval of the *school nutrition programs* in educational establishments, initially centered on the distribution of milk and bakery products (sub roll), subsequently adding the fruits (apple) and implementing educational measures to complete the distribution program.

The last approved program is „Romanian Program for schools for 2017-2023” with the following components:

- a) distribution of fresh fruits and / or vegetables, natural milk and / or dairy products without the addition of powdered milk, bakery products;
- b) educational measures accompanying the distribution of products.

It was performed the global analysis of the school programs for the distribution of dairy products, bakery and fruits, developed in Bihor county, highlighting the positive and negative aspects in the implementation over time, as well as the implementation of Law no. 123/2008 for a healthy diet in pre-university education units.

A component, through which the state acts in the education for a healthy nutrition of children and young people in kindergartens and schools,

is the national program of evaluation, promotion of health and education for health. The program aims to promote the health and well-being of the students, the optimal functioning from a somatic, physiological, mental, emotional, social point of view and the formation of a healthy lifestyle. Thus, preschoolers and students have access to correct information, appropriate to the age and level of understanding, regarding healthy eating, water consumption, physical activity benefits, risk behaviors for health, all being fundamental components for a healthy lifestyle.

Since 2011, information-education-communication activities regarding healthy eating among children and adolescents in Romania have been carried out in Bihor County, by the staff of the Health Promotion Department from the Bihor Public Health Directorate and by other categories of trained persons for disseminating the specific correct messages, as: teachers, doctors and school nurses. All activities were targeting preschoolers, students and indirectly parents.

The activities proposed for the purpose of adopting healthy behaviors by children and adolescents, are aimed to:

- increase consumption of fruits and vegetables
- consume breakfast daily
- optimize / encourage water consumption
- increase involvement in physical activities at least 60 minutes / day

In Bihor County, this program is an integral part of the County Plan of Action (County Framework Plan for 2011 - 2015 „Increasing access to primary preventive services for children and adolescents” and the County Action Plan „Be active for health” for the period 2015 -2020) proposed by the Bihor Public Health Directorate, and assumed with the county partners: Bihor County School Inspectorate, Bihor County Council, Bihor County Association of Representative Parents Councils and Bihor County Sport and Youth Directorate.

The activities carried out by the teachers in schools, are extracurricular, optional and include a significant number of beneficiaries year by year. These are:

- theoretical activities: lessons, presentations, discussions, stories, watching video documentaries, movies, cartoons, poems, riddles, songs; meetings with doctors;

- practical activities: drawings, exhibitions, panels, posters, masks and objects from vegetables and fruits; preparation of a healthy breakfast; preparing salads from vegetables / fruits; visits to gardens / orchards, to the market;

- monitoring the behavior of children by using the monitoring files.

## RESULTS AND DISCUSSION

Initially the program „Sub roll and milk”, represented an answer to a social, real and important need, having several dimensions:

- the need to supplement the nutritional deficiencies of children from families in severe poverty – „there are children for whom sub roll and milk are their first / only meal per day”; on the other hand, „there are children who do not consume milk at home because it is expensive.”

- the need to counteract certain eating behaviors with negative effects on the health of children: the habit of eating nothing in the morning; the habit of eating foods high in carbohydrates and / or fats; lack or insufficient percentage of dairy products in children's nutrition.

**Positive aspects** of the implementation of programs for dairy products, bakery products and fruit:

- promoting the consumption of dairy products and fruits

- providing a snack between breakfast and lunch for preschoolers and schoolchildren

- encouraging the consumption of fresh fruit – the program showed that most of the students who received an apple also consumed it

- universality and accessibility of programs through: *equity*, meaning that those who contribute to the financing of the program are not excluded, and by *avoiding the effects of discrimination*.

**Negative aspects** of the implementation of programs for dairy products, bakery products and fruit:

- the wastage generated by the behavior of the students who use the sub roll, milk and apple for a purpose other than the one dedicated to them: „*they fight with them*”; „*they throw them in the garbage or on the street*”; „*I take it home and give it to birds or dogs*”.

- the monotony of a snack that is the same every day - the children who throw the sub roll, the milk or the apple declare that they do it because they are bored to eat the same thing every day.

- the distribution of products, both in terms of transportation to school and in-school distribution: there are schools where daily delivery cannot be ensured; the lack of storage conditions or the effort to keep distribution costs as low as possible, generates a series of practices that affect the purpose of the program and the quality of the products; especially in the case of large schools, with over 1000 students, the distribution of these products is a problem, which requires time and effort every day and which often falls to teachers. There is a certain frustration between teachers who say they are „prepared to be teachers, not to distribute food products”.

The school feeding offers (canteen, school kiosk, catering) were regulated by Law no. 123/2008 for healthy eating in pre-university

education units, whereby all food suppliers in the educational establishments, have the obligation to comply with certain provisions regarding foods not recommended for preschoolers and schoolchildren, respectively the principles underlying a healthy nutrition for children and adolescents.

The educational units, through the changes of structure (reduction of personnel, frequent changes that they have undergone in time) were not worried nor encouraged to improve their quality and the sustainability of the services of serving meals in educational units, these being partially replaced by offers from commercial school kiosk or catering, with negative impact on the nutrition of children and young people, because uncontrolled menu, not respected meal schedule, poor quality of food products etc.

The evaluation of the interventions for the implementation of the county action plans for healthy eating and physical activity in children and adolescents within the National Program of Evaluation, Promotion of Health and Health Education, has been successfully implemented in Bihor County for 2014 - 2019 (Table 1).

The implementation of the educational program was favorable appreciated by teachers and other professional categories in the educational units, who were actively and voluntary involved in the implementation of the project. The informative-educational materials, as guides and worksheets, were considered: - "useful, important and well made"; positive appreciation of behavior monitoring records were also expressed, these being considered appropriate to the age and level of understanding of preschoolers / students.

*Table 1*

Indicators of interventions implementation of the county action plans for healthy eating and physical activity in children and adolescents in Bihor County for 2014 – 2019

<b>School year</b>	2014- 2015	2015- 2016	2016- 2017	2017- 2018	2018- 2019
<b>Indicators</b>					
<b>Educational Units</b>	69	73	83	110	90
<b>urban/rural</b>	31 / 38	39 / 34	45 / 38	51 / 59	49 / 41
<b>Pre-schoolers</b>	5074	5427	6094	7941	6359
<b>Pupils</b>	5930	7869	10756	14182	10872
<b>IEC Activities</b>	4173	8488	10313	13886	12650
<b>Informed parents</b>	11551	13065	17205	21853	18011
<b>Teachers / other persons implicated</b>	791 / 93	939 / 104	1118 / 172	1427 / 170	1299 / 140

1/3 of the students enrolled in the Bihor County education system participated in the activities, benefiting from the specific information.

The parents agreed to the participation of the preschoolers and the schoolchildren in the activities within the project and even more, they were gladly involved in some activities.

## CONCLUSIONS

The analysis of the positive and negative aspects of the school programs by the decision makers and the specialists / professionals could generate a series of corrective actions in their development.

The positive impact of informative - educational activities among preschoolers, pupils and parents has led to an increase in awareness of the role and importance of adopting and maintaining healthy behaviors.

The implementation of the strategy on the healthy nutrition of children and young people in kindergartens and schools in everyday life, requires a collective, cross-sectoral effort involving health specialists, staff from educational establishments, economic agents, parents, decision-makers – „actors” to provide healthy nutrition and support to children and adolescents.

## REFERENCES

1. Colectiv de coordonare și revizuire materiale: Dr. Brîndușe L.A., Dr. Cioran L.N., Dr. Cucu M.A., Dr. Dima C., biolog Dinescu C.V., Dr. Domnariu C.D., Dr. Furtunescu F.L. Dr. Sonea N.C., Psih. Dr. Băban A., Psih. Dr. Cosma A., Psih. Dr. Tăut D., Dr. Ceană D. E. Dr. Farr A.M., Dr. Ruța F.D., Dr. Tarcea M., 2015, Ghid de intervenție pentru alimentație sănătoasă și activitate fizică în grădinițe și școli - material realizat în cadrul proiectului „Intervenții la mai multe niveluri pentru prevenția bolilor netransmisibile (BNT) asociate stilului de viață în România” (RO19.04) cofinanțat din Granturile Norvegiene 2009-2014, în cadrul programului Inițiative în sănătatea publică (RO19)
2. Fructe în școli OUG nr. 24/2010 cu modificările și completările ulterioare; Lapte și corn: OUG nr. 96/2002 și HG nr. 714/2008 cu modificările și completările ulterioare
3. Hotărârea nr. 640/2017 pentru aprobarea Programului pentru școli al României în perioada 2017-2023 și pentru stabilirea bugetului pentru implementarea acestuia în anul școlar 2017-2018
4. Ordonanța nr. 13/2017 privind aprobarea participării României la Programul pentru școli al Uniunii Europene
5. Raport de activitate, Direcția de Sănătate Publică Bihor, Anul 2015, pp. 112-113 <http://www.dspbihor.gov.ro/2016/01/Raport%20de%20activitate/Raport%20activitate%20DSP%20Bihor%202015.pdf>
6. Raport de activitate, Direcția de Sănătate Publică Bihor, Anul 2016 , pag. 100 <http://www.dspbihor.gov.ro/2017/02/Raport%20de%20activitate/Raport%20activitate%20DSP%20Bihor%202016.pdf>
7. Raport de activitate, Direcția de Sănătate Publică Bihor, Anul 2017 , pag. 98 <http://www.dspbihor.gov.ro/2018/02/Raport%20de%20activitate/Raport%20activitate%20DSP%20Bihor%202017.pdf>
8. Raport de activitate, Direcția de Sănătate Publică Bihor, Anul 2018 , pag. 119 <http://www.dspbihor.gov.ro/2019/03/Raport%20de%20activitate/Raport%20activitate%20DSP%20Bihor%202018.pdf>
9. <http://www.madr.ro/docs/minister/programul-pentru-scoli-consultativ.pdf>