

# A NEW DIMENSION INCLUDED IN TEACHING EDUCATIONAL SCIENCES: HEALTHY EATING BEHAVIOUR

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**Abstract:**

*Quality in higher education includes constant interest to adapt our curricula and educational offer to the needs of the students. In recent years an increased interest is given to healthy nutrition, healthy eating behaviour. The persons required to start working with this topic are the personnel of nurseries, crèches, and kindergartens. They should acquire this knowledge during their university studies. Unfortunately, as we all know, our curriculum is already overloaded so very little is taught about this topic. This makes professionals feel unprepared to teach this subject to the children, as they lack knowledge. We have done a research in the kindergartens of Timisoara and also among the students of the Educational Sciences department to assess the situation and the needs in this area. In cooperation with 4 other universities we have conceived a best practice guide to help professionals deal with this problem.*

**Key words:** *educational offer, quality, curricula, healthy eating behaviour, best practices.*

**JEL classification:** *D1, I25*

The pre-schooling years are the most important ones in the lives of humans due to the later effects on the development of individuals. It is a reality that children at this age can only choose from the sorts of food they are offered by their caretakers so it is crucial that adults themselves have correct nutrition knowledge and practice proper nutrition habits. Therefore, the awareness and knowledge levels of nutrition of parents and teachers (educational system) are essential for the future. Malnutrition during early childhood causes various health problems in people's future lives. However, nutrition education needs much less effort than treatment of diseases, as it is well known that prevention is much less expensive than treatment. Societies where children are well-fed from the beginning of pregnancy are known to be healthier and more productive.

In the frame of several European projects we focused on the eating habits and creating of eating behaviour at children. In order to help disseminate information about this important subject at both national and European level we proposed this project that has as main outcome a nutritional guideline for early childhood stakeholders.

We have revealed some realities concerning Romanian population that affect the nutritional status: people think that eating healthy is more expensive than the food they are commonly using. Often, although they think they are well informed about nutrition the reality proves to be different (Vintilă, 2009). Taking into account these realities we think that by educating parents and teachers we will improve the quality of food children will get.

We must say that very little attention is given to creating eating culture in our country. This fact is revealed by the number of children diagnosed with diabetes or obesity that has increased in the last few years. One of the main causes of this health situation is for sure the nutritional behaviour. Children eat unhealthy both concerning the dining schedule and the aliments they use.

Professor George Mencinicopschi PhD, director of the Romanian Food Research Institute, pointed out the increasing number of cases of obesity among children and the occurrence of chronic diseases in this age, which until now were characteristic of adults.

In Romania, according to a study performed in the western part of the country, in 1980, on a sample of 5250 children aged between 3 months and 16 years, there was an obesity prevalence of 14.7%, namely 18.6% in infants, 15% in preschool children and 14.2% in school children, with a higher prevalence in females (Popa, Brega, Alexa, 2001). WHO reports a prevalence of overweight in children aged 0-4 years of 6.4% in girls and 5.5% in boys, data obtained from the Nutritional Status Surveillance National Programme developed between 1993-2002 by “Al.Rusescu” Institute for Mother and Child (IOMC), Bucharest.

According to data from the National Centre for Assessment and Promotion of Health Status in Romania (CNEPSS), the prevalence of obesity in children 3-16 years increased between 2004 and 2010 from 0.7% in rural areas and 1.6% in rural areas to 1.5% and 3.1%.

Annual cross-sectional surveys have been conducted at national and regional level. Most of the surveys are performed in order to assess the nutritional status of the population, and not to evaluate the exposure to contaminants. We can say that there is a low interest in nutrition as a research topic and there is also a lack of intervention projects. The financial resources allocated for dietary surveys are insufficient.

Nutritional status of pregnant women, children under 5 years of age and school children aged 6-7 years was the focus of a study that was conducted between 2004 and 2005. The implementation of this project was done by specialists from the Institute for Mother and Child Care. Technical assistance and financial support was offered by UNICEF Romania throughout the whole implementation of the study. The objectives of the study were the assessment of nutritional status of pregnant women and children up to the age of 7 years; the evaluation of nutritional practices; the assessment of health services contribution to prevent deficiencies nutrition.

Results showed a number of nutritional deficiencies often generated by practical aspects. A significant part of the studied indicators show an unfavourable nutritional status of preschool children. As a main outcome of this study a guide for health care providers that includes basic knowledge about nutrients has been developed.

Another study Measurement of macro and micronutrients intake in preschool children (MAMMA) performed on about 400 Romanian preschool children showed that over 70% of the children aged between three and six years eat vegetables and fruit only two or three times a week and only 27% of them consume milk daily and yogurt. Nine of ten children have a calcium intake from food under the recommended standard of 800 milligrams per day. There is a critical situation is in vitamin D intake as well: 99.7% of children are deficient in vitamin D.

The parents, who participated in the study as subjects, stated that the reason children reject fresh dairy products is, first that “the child doesn’t not like them (77%), followed by “dairy products are not healthy” (25 %), indicating parents lack of information and ignorance.

Although the number of daily meals is generally is meet, the study shows that, during weekends, children eat more than from Monday to Friday. More than half of children exceed the recommended standard caloric intake of 1,800 calories a day. They have a high sodium intake. These facts explain the growing rate of obesity in Romania.

The results of these studies show the negative influence that adults have in nutritional behaviour in children. The most relevant are especially parents and the educational factors. No doubt there is a need of nutritional education starting from an early age. Preschool children should learn about healthy nutrition as habits are developed through educational activities but also practice (daily menu).

In Romania the teaching system is structured on two levels: pre-primary education (0-3 years) is part of the first level of school education, named early education, aside to preschool education (3-6 years). The parents have the right to choose the kindergarten that their child will attend, in the state or private system and they are entitled to a place in the system for their children. Preschool education providers can be private or public, but it is necessary to be accredited by the Education, Research, Youth and Sports Ministry in collaboration with Health Ministry. According to the new law early childhood education is organised in kindergartens, crèches or day centres. In private kindergartens parents pay all the services their child benefits of (education, meals, care) unlike the public kindergartens where the state support most of the cost, parents are only paying for the food (about 2 euro/day).

The kindergarten should offer to children healthy meals as this is one of the factors that contribute to healthy nutritional habits in children. Unfortunately there is no specific regulation to specify rules for child nutrition in kindergarten. The main aspect that regulates child nutrition is the financial one.

The Ministry of Public Health issued in 2008 a normative act providing a number of obligations for commercial units and educational establishments concerning the eating principles and recommended food for children and teenagers. Unfortunately these recommendations are not very specific and even more importantly there is no interest in them being respected.

According to this normative act preschool child's diet should follow a number of rules:

- Food should include a wide variety of aliments from the basic groups: bread, cereals, rice and pasta, vegetables, fruits, milk, cheese and yogurt, meat, poultry, fish and eggs.
- Food must be served before the children are really hungry, tired or irritated.
- Several types of food choice and at least one favourite food have to be provided.
- To ensure the daily ration of nutrients, meals must be supplemented with snacks consisting of cereal and milk, sandwiches, fruit, fruit juice, plain yogurt or yogurt with fruit, cheese.
- The menu has to contain aliments of different colour and consistency, in order to stimulate the appetite.
- The quantity of food must be appropriate to the child's age.
- The meal must end when the child is satiated, becomes irritated or loses the interest.

There is also provided a list of unadvised food for preschool and school children:

<b>Unadvised food</b>	<b>Limits of unadvised food</b>	<b>Example</b>
High sugar content	over 15 g sugar/100g	Cookies, candies, lollypops
High fat content	over 20 g fat/100 g	Fried products, pizza, burgers
High salt content	over 1,5g salt/100g or over 0,6g sodium/100g	Chips, salted peanuts, salted pretzels
Juices		any type of soft drinks, except bottled water or bottled mineral water
High calories content	over 300kcal/ unit	

Unpackaged food		Bulk foods, unpackaged sandwiches
Unlabeled food		

The curriculum for preschool education is centred on children’s physical, cognitive, emotional and social development and the remediation of early development deficiencies. But there is now curriculum for health education, even less dedicated to nutrition issues.

The curriculum is overloaded, so that educators complain about the large amount of stuff they have to teach and that they lack the time for these topics. Other reasons for leaving them aside are: the insufficient knowledge the educators themselves have related to these subjects, the inexistence of special areas where different activities could be performed: preparing food together with the children; also the low economic level- because the children are asked to bring with themselves fruit, vegetables in order to prepare fruit salad or pickles together with the teacher.

### **Description of the project**

This study is part of the project NUTGECS - A Nutrition guide for Early childhood Stakeholders, which is Leonardo da Vinci project, LDV -2010-1-TR-1-LEO04-158521. The project involves 5 partners from 5 countries: Turkey, Germany, Austria, Latvia and Romania.

This project aims to develop a functional and sustainable eating behavioural guide, which could be used by all stakeholders working with preschool children. This category may include parents, teachers, vocational education institutions, policy makers in related fields, public and private institutions, and other community organizations. As a result of the project it is expected to be disseminated this guide through seminars, CD's, commercials, posters, brochures, news reports, links to web sites, media, academic presentations, national and international magazine articles and meetings with students and teachers.

### **Methods**

With the purpose of identifying the needs of stakeholders involved in kindergarten nutrition we developed a two steps research. First we assessed the needs of preschool teachers in relation to nutrition education in kindergarten/ preschool using a problem-centred, semi-structured expert interview. The results should display the role of nutrition education in the preschool. It should also reveal the problems of nutrition education and what preschool teachers wish to be improved.

The semi-structured interview contains five central themes: description of kindergarten (daily routine, pedagogical focus), the importance given to nutrition in kindergarten, the importance of nutrition in the child’s view, nutritional education focus, and needs of change in kindergarten.

Six preschool teachers were evaluated using this interview in each country. The reports were analysed and compared in one of the project meetings and used as a base in the elaboration of the nutritional guide.

The second step of the research aimed to find out the point of view of other stakeholders on the subject of nutrition in kindergarten, namely psychologists, parents, social workers and Educational Sciences department students (future teachers). The research was a qualitative one, using a semi-structured interview containing topics as: their knowledge on nutrition in kindergarten, positive aspects, negative aspects, things they would like to change.

## **Results**

Results showed out that nutrition doesn't represent a focused issue in Romanian kindergartens. Nutrition is just another aspect of services provided by kindergarten to the children in the frame of caretaking. There is no clearly stated goal of nutrition education. Children eat in the kindergarten because they should be well cared for during all the 4 or 8 hours a day they spend in the kindergarten. Despite the fact that all the stakeholders proclaim their interest in the theme of nutrition and consider it one of the most important especially for children is one of the less discussed subjects in the preschool curriculum and daily menus for pre-schoolers aren't built by rules ore by specialized people.

## **Kindergartens description**

The teacher we interviewed all work in state owned kindergartens. The opening hours differ by the type of kindergarten: there are extended program kindergartens, opened from 7.30 to 17.00 hour and part-time kindergartens opened from 7.30 to 13.00 hours.

There are some kindergartens with insufficient space that use the classroom also for dining and sports, others have a gym and courtyard, but also a dining room.

Each kindergarten has between 4 and 6 classes with an average of 25 children / group. For each extended program class there are hired two teachers, who work in shifts and a caretaker. One of the most important needs is referring to personal as there is a lack of nurses and caretakers. There are kindergartens that don't have a hired nurse to take care of the children health or to plan healthy daily menus. Not all the teachers working in kindergartens have a degree in education, they are not qualified. The law allows this as there is a low number of educated teachers who want to practice.

## **The importance given to nutrition in kindergarten**

All the kindergartens offer 3-4 meals to children as they spend 8 to 10 hours a day in there (breakfast, lunch and one or 2 snacks).

E.g.: "Children eat breakfast around 9 and lunch around 12. Around ten children receive a fruit as a snack, and in the afternoon, around 16 before they leave for home, another snack - a fruit, a chocolate or biscuits – is offered. "

There are no clear rules, known by the teacher, regarding building de menus. In some kindergartens there are medical nurses responsible for the menu, but unfortunately this is not a rule. In others kindergartens the administrator together with the cook are choosing the aliments and also the menu. Although the interviewed teachers think that the menu is healthy there is no specialist involved in settling it.

E.g.: "I do not know exactly what rules there are, the administrator is responsible for the menu and the food purchasing. "

There are not special rituals regarding meals other than a schedule of meals and an algorithm of activities related to hygiene. Not all the kindergartens have a special dining room. Unfortunately there are kindergartens where the classroom is also used as a dining room and the same tables are used for eating and educational activities.

E.g.: "We don't have a special area for dining so we use our classroom, but we make sure to preserve hygiene by cleaning the tables before and after dining and by placing them on a floor without carpet so it can be cleaned easier."

Parents can influence children's menu in some circumstances: if the child is ill and has to fallow a certain diet or if they don't want their child to eat a certain food. Unfortunately those cases are very rare as the parents are more likely interested if the child has eaten rather than what did he eat.

E.g.: "Parents are informed about the daily menu. There is a panel that displays the next day menu. If there is food that some children are not allowed to consume these can be changed at the parents' request."

Regarding the children food customs, in the kindergarten they eat low fat food, chicken meat is preferred and also butter is used instead of margarine.

### **Nutritional education focus**

There isn't a theme of nutrition education provided by educational curriculum. This topic is only addressed by teachers included in other curriculum subjects.

E.g.: "There are issues provided by the curriculum as general themes, where I try to add topics about food. But there's not enough time for this."

Examples of educational activities:

E.g.: "We used to invite specialized doctors or parents working on the field to talk to children about healthy food and I noticed that they enjoyed it very much."

E.g.: "Thematic activities on the environment. For example, if we approach a topic about autumn we talk about fruit, vitamins and eating healthy, we organize games..."

E.g.: "We made fruit salad and we put pickles together. The children brought fruit and vegetable from their homes and we worked together. They liked it very much! "

There is a lack of training for the teachers in this topic. They admit that they themselves don't know exactly what healthy eating means!

All the stakeholders that were interviewed stated that it's important to educate healthy eating habits because children should be taught what is healthy to eat at an early age. Another reason is that not all parents have time and knowledge to teach these things and it is proven fact that good habits are formed at early ages. Despite all the above mentioned teachers don't feel well informed on the topic of nutrition and they lack information sources specific to this age group.

E.g.: "I don't feel prepared enough to teach children on topics like healthy food. I know we should eat fruit more than sweets... there is hardly some material on this subject."

Teachers are not involved in nutrition, they cannot influence the menu but also they admit they are not prepared to do this, they don't have any training regarding this subject. Teachers help the children to prepare themselves for the meal (personal hygiene) and also to eat. They teach them a proper eating behavior (how to sit at the table, how to use cutlery), although is not their responsibility to track meals.

E.g.: "I don't feel very well informed about nutrition, I need more information. Children ask many questions. I'm consulting an acquaintance who is a pharmacist, but mostly I get my information from the Internet."

Teachers do not consider that it is their job to insist more on food education. They give it the time and the importance allowed by the curricula and at the same time it is their believe that parents should be more involved in developing children's healthy food habits.

E.g.: "We cannot give much time for nutrition education as there are many other things to be done as language education, mathematics, and other more."

### **The nutrition importance in children's and parents point of view**

Kids seem to be very interested in the topic of nutrition and they respond positively to the rules and diet imposed by the kindergarten. They especially get

involved in activities and games on nutritional theme. An important aspect that was highlighted in teachers' interviews was that there are many children who don't know basic rules of hygiene and nutrition, but they take the things they learn in kindergarten back home with them, educating also their parents.

The parents' non-involvement in educational activities prepared by the kindergarten is relatively widespread. Parents seem to be careless about their children's nutrition. Usually they prefer as a nutrition rule their children's desires. There are some activities with parents, named tutorial classes or parents meetings where food topics are discussed, but there are programmed only once a year.

Most parents bring their children to kindergarten because they don't have anyone to care for them while they are working and are not very interested in what their children learn there. They are not so interested in what their children eat in kindergarten, but by the simple fact that they eat. They do not maintain at home the rules on healthy nutrition, because they don't afford this, they want to please the child or they simply do not care enough about this topic as they do not adequately appreciate its importance.

### **Needs of change in kindergarten**

The stakeholders that were interviewed have identified many needs of change both on nutritional and non-food aspects.

They think that menus should be more diversified as in many kindergartens there is a menu that keeps repeating every week. It would be also useful a permanently employed nurse to be involved in setting the menus for a higher control over food supplies and menus.

Other needs are of material / administrative nature: new dishes, upgrading the kitchen and furniture and fittings special spaces for dining and adequate for age.

In terms of education the educators should be trained to treat issues of healthy eating and they should be equipped with modern and specific teaching materials.

In terms of legislation teachers think that medical authorities should draw up clear standards on nutrition in kindergarten although those standards already exist. So, it is rather a problem of being informed properly, of spreading the information, because the legal bases exists. The Ministry of Public Health issued in 2008 a normative act providing a number of obligations for commercial units and educational establishments on the eating principles and recommended food for children and teenagers.

### **Conclusions**

The need of healthy nutrition education in kindergarten is great in Romania as most of the projects and studies developed on this topic are evaluative and not for intervention purposes.

The need of nutritional education is felt among children, parents, but also among teachers who do not feel ready to provide support in this subject. We think it should be important to include nutrition subjects also in teachers' educational curricula, so that they can be prepared to teach, on their turn, children on this subject.

Some improvements that can be made in the educational system in relation to nutrition are: to introduce nutrition subjects in kindergarten curriculum, to hire specialized people to handle the menus, to attract the interest of parents on this issue.

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