

DEVELOPMENT OF HEALTHY DIETARY HABITS IN CHILDREN THROUGH AN INTEGRATED APPROACH

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Abstract: Modern sedentary lifestyle brings numerous challenges in the development of healthy habits in children. The most common consequence of unhealthy diet and reduced physical activity is obesity, which also brings about the risk of many chronic conditions and diseases. In order to raise children's awareness of the importance of healthy lifestyle, The paper presents various activities on the topic of healthy eating, based on an integrated approach through play as the most natural learning method. The focus is mostly on aspects of the activities related to Methodology of Foreign Language Teaching and Methodology of Fine Arts Education, however, it is possible to integrate Methodologies of Language Development, Environmental Education, Physical Education and other areas. The children had positive reactions to the activities and were empowered to try foods that they had previously refused, thanks to the positive influence of their teachers, peers and their own research based on play.

Key words: children, healthy diet, obesity, prevention

1. INTRODUCTION

Modern sedentary lifestyle brings numerous challenges in the development of healthy habits in children. Influence of the media, the environment and peers can have a significant effect, both positive and negative. Children learn by example - it is not enough just to tell them that they cannot or must not do something but we must also give them an explanation why something is an inadequate choice so that they can accept and acquire it more easily, and also set a personal example.

In most cases, nutrition in preschool institutions is carefully planned so as to meet children's nutritional needs, both in terms of type and quantity of food. However, the problem of inadequate diet at home is becoming increasingly important because, due to lack of time, which is mentioned as the most common reason, children eat unhealthy foods, so-called "fast food" products, more and more often. This can have a long term negative effect on their health. Most frequent parents' mistakes are feeding children too often, offering larger portions than necessary, offering their favorite foods, using unhealthy but tasty foods as rewards and pressuring their children to eat even when they are not hungry[1]. As a result, children lose the feeling of hunger and satiety, become accustomed to frequent meals, overeating, consuming unhealthy foods in large quantities, and refusing healthy foods due to parental pressure [2].

The most common consequence of unhealthy diet, along with reduced physical activity, is obesity, which also carries a risk of numerous chronic conditions and diseases. According to data presented by the World Health Organization (WHO), in 2022, over 390 million children and young people aged 5-19 were overweight (including obesity).The prevalence of overweight increased dramatically, from 8% in 1990 to 20% in 2022. The increase is similar for boys and girls: in 2022, 19% of girls and 21% of boys were overweight [3]. The fact that in the same year 37 million children under the age of 5 were overweight [3] causes additional concern. In Serbia, there is also a growing trend of obesity, both in adults and children[4].In the report of the Ministry of Health of the Republic of Serbia, it is pointed out that in 2000, research showed a prevalence of obesity of 4.4% in children aged 7 to 19 years, while just six years later the prevalence was already 6.4% [5].According to the results of the Serbian Population Health Survey, the prevalence is still increasing, so in 2013, 28.2% of children aged 7 to 14 were overweight, and 13.7% of them were obese[1],[6]. Similar results were obtained on a sample of school children aged 9 to 12 years, where out of 757 pupils, 18.4% were overweight, and 15.3% were

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obese[7]. Research shows a higher prevalence of obesity in children if the parents are also obese. In families where one of the parents is obese and the other is well-nourished, obesity has been confirmed in around 50% of the children. In families where both parents are obese, up to 75% of the children are obese. On the other hand, in families where the parents are not obese, obesity in children is present at around 9% [8]. Other research appears to confirm these findings[1],[9]. The risk of obesity in adulthood is also higher if the person was obese as a child[1],[10], [11].

Research conducted in Belgrade identified sociodemographic factors associated with obesity in schoolchildren. It has been shown that the most significant risk factors are younger age and living in rural areas, which is the basis for planning preventive actions with the aim of reducing obesity [4]. Research conducted in the Republic of Srpska showed that excessive nutrition and obesity could be the cause of prehypertension and hypertension in children. One in every five children between the age of 6 and 15 was diagnosed with overweight or obesity, and one in ten with prehypertension or hypertension[12]. Changing the lifestyle, which includes regulating the diet and introducing regular physical activity, can significantly affect weight reduction, and therefore the regulation of blood pressure.

The psychological aspect of the issue, as an important factor in the prevention and treatment of obesity, must not be neglected. People who are overweight or obese often do not have a good self-image, they are often teased by other people in their environment, so they often withdraw into themselves. As a consequence, they are caught in a so-called vicious circle because, due to the feeling of dissatisfaction, they start looking for additional comfort in food, usually unhealthy food. In addition, they are less and less physically active, and spend more and more time indoors, leading a predominantly sedentary lifestyle. The longer this condition lasts, the harder it is to make a positive change. That is why it is very important to see the problem in time and, along with the change of lifestyle, provide each person with psychological support. These claims are highlighted in the National Program for the Prevention of Obesity in Children and Adults, where the importance of physical activity with a suitable diet and psychological support is emphasized as a prerequisite for reducing body weight, improving fitness, metabolic risk factors and numerous disorders in the sphere of psycho-social functioning[13].

Considering a large number of studies that indicate an increase in the prevalence of overweight and obesity in children, as well as the consequent development of other chronic conditions and diseases, it is necessary to put the accent on timely work with children in order to help them gain awareness of the importance of healthy nutrition and physical activity from an early age. For this reason, we presented several activities that are based on the integrated approach, with the aim of developing healthy dietary habits in children, both preschool and early elementary school age.

2. HEALTHY FOOD AS THE RIGHT CHOICE THROUGH AN INTEGRATED APPROACH IN WORKING WITH CHILDREN

The new preschool curriculum framework "Years of Ascent" is aimed at children's overall development and the support of their well-being through meaningful relationships they build with their peers, adults and the physical environment and empowering children to actively participate in the community. The framework emphasizes the importance of an integrated approach to learning through research and projects with children. Adults do not offer ready-made solutions but become play partners who explore together with children and help them pursue their ideas. Learning through an integrated approach is more meaningful and enjoyable because it is based on children's experiences. Play represents the most natural way of learning because through play children think, acquire new knowledge and develop important life skills[14]. According to the current national curriculum, and with the aim of enriching children's play, we decided to present additional activities for children of preschool age and early elementary school age (from first to fourth grade of elementary school) using an integrated approach, that is, incorporating as many different methodical areas as possible into a single whole. In this way, through exploratory play, children discover and acquire good nutritional habits and expand their fields of interest. The proposed activities for children include Methodology of

Fine Arts Education, Methodology of Foreign Language Teaching, Methodology of Language Development, Methodology of Environmental Education, Methodology of Physical Education, etc.

Considering the fact that we are talking about an innate ability, children can express themselves artistically from the earliest age in different artistic fields adapted to their stage of development. As professionals who understand children's artistic expression, its characteristics and the benefits it brings to their overall development, we can conclude that artistic creation represents an adequate activity in an integrated approach that enables the promotion and development of healthy habits in children. The artistic fields that can be used include different techniques and materials, as well as their combinations. Of course, healthy and unhealthy food, as the basic theme, provides an interesting subject to draw in a technique chosen by children, paint or sculpt using soft materials such as plasticine, dough and modelling clay (Figure 1 and 2).



Figure 1 and Figure 2 - Different artistic fields which can be used to improve children's knowledge about healthy dietary habits

When it comes to learning a foreign language, besides learning through play, these integrated activities encompass elements of task-based learning, the Total Physical Response (TPR) as well as project-based learning (PBL). When kids are playing, they are in their most natural situation, therefore they gladly follow the rules of games and acquire new foreign language vocabulary at the same time. While completing different tasks children also have the opportunity to gain experience communicating in the given situation/context [15]. With the usage of children's own artwork, it is a fun way of learning and memorising new vocabulary and phrases.

2.1. Suggested activities

- **Food pyramid** - through this project, children discover the food pyramid, which field in the pyramid certain food belongs to and why. Their task is to draw foods from different groups, colour them, cut them and put them in the right place on the food pyramid base prepared in advance. Such practical activities are tasks that integrate across the curriculum. This approach includes Methodologies of Fine Arts Education, Environmental Education, Language Development. Additionally, children can learn the names of foods in a foreign language. In Serbia, they usually learn English as their first foreign language, but it can also be in another language, depending on the kindergarten or school curriculum. This kind of learning, the project-based learning (PBL), is a very effective method which plays an important role in education. It is a student-centred learning activity in which children share resources and exchange ideas. In addition, there can be levels that the children should pass in order to reach the goal and put different kinds of food in the appropriate places. In this way, Methodology of Physical Education is also included in the integrated approach, however, what is even more important, emphasis is placed on physical activity as an integral part of a healthy lifestyle.

- **Healthy fresh juices** - each child brings one or two kinds of fruit and vegetables to kindergarten and/or school and, with the help of the teacher, the children make different combinations of fresh juices. In this way, they are empowered, with the support of their peers, to try new combinations of healthy juices and compare them with the juices bought in a shop. They can further enrich the activity by trying to recognize the name of a fruit or vegetable based on touch, while their eyes are closed. The same can be done by activating the sense of taste, also with their eyes closed. Children can say all the names of fruit and vegetables in their native language as well as in a foreign language. Through this game, Methodologies of Language Development, Foreign Language Teaching and Environmental Education are integrated. This activity includes elements of task based learning and learning through play/games. Engaging in this interesting task of making healthy juices creates a lot of opportunities for interaction in a foreign language and helps kids indirectly learn the language. Guessing the name of the fruit while touching it or tasting it makes the experiences in communication more vivid, as children should be given an opportunity to use all their senses [16].
- **What is healthy and what is not?** - the game can have a competitive aspect, with children divided into groups. Each group is given an equal number of pictures with different foods, which the children made the previous days, and their task is to put them in the appropriate bowl for healthy or unhealthy food and drinks. Similarly, instead of dividing into healthy and unhealthy foods, there can be a division into food groups, as they are classified in the food pyramid. The winner is the group that has more correctly placed pictures, and if the number is equal, then the group that was the first to finish. This game integrates Methodologies of Physical Education, Fine Arts Education, Foreign Language Teaching, Language Development and Environmental Education. In addition to this or a similar game, healthy and unhealthy food can, in the context of artistic expression, be presented through individual children's perception. A personal view of a seven-year-old boy about what is healthy and what is not, is presented through a duel between chocolate and a watermelon (Figure 3). Taking part in play activities, especially games which include an element of competition, children are particularly motivated to pay attention to and use foreign language words and sentences if they are able to do that [16].



Figure 3 - A duel between a bar of chocolate and a watermelon

- **Tasty and healthy snack** - children bring healthy foods to kindergarten/school and, together with the teacher, use these foods to make various healthy snacks. For example, they can make

fruit salad, fruit smoothies, healthy treats, etc. During the preparation, they can discuss why certain food is good for our body, where it grows, which group it belongs to. During the preparation and from the leftovers, children can explore different possibilities of composing and combining these natural materials, creating new and original forms. They can also acquire new words (names of food, colors, quantities) in a foreign language. Through this game, Methodologies of Environmental Education, Language Development and Foreign Language are integrated. This activity is another example of task-based approach in which children, while doing a practical and useful activity, also learn new words in a foreign language.

- **Our garden of health**– children and the teacher form a small garden in the yard of the kindergarten/school or in pots in the workrooms/classrooms. Children are taught to regularly water the plants and take care of them, and when the plants grow enough, they can use the leaves to make fresh juices (mint, parsley, basil...). If it is possible, different types of vegetables can be planted, so that they can later be used to prepare food. This activity includes Methodologies of Environmental Education, Language Development and Foreign Language Teaching. This project based activity also includes the Total Physical Response (TPR), a method which is frequently used in teaching a foreign language to preschool kids. It is based on the coordination of language and physical movement and can be used in many ways: for example, by getting the children to follow instructions of the teacher in a game or a practical activity [17]. In the activity described above, for example, the teacher can give the children instructions to water the plants, move them to a sunny spot etc.
- **Pickles** - children go to the market with their teacher and buy the vegetables they need to make pickles. While preparing the ingredients, the children learn about each of them, why it is important for our body, what vitamins and minerals it contains, for which organ system it is particularly important. They also learn the names of foods, methods of preparation (washing, peeling, chopping...) in a foreign language and thus improve their knowledge. This activity includes Methodologies of Environmental Education, Language Development, Foreign Language Teaching and Physical Education. This activity provides another opportunity to encourage children to use foreign language in an interesting and stimulating context. The teacher gives children instructions how to wash, peel, cut the fruit or vegetables (Total Physical Response).

3. CONCLUSION

Obesity is a major problem of modern society, and its prevalence is increasing year by year, both among adults and among children. Obesity in children carries a high risk of obesity later in life. Habits that develop in childhood are difficult to change, so it is essential to develop healthy dietary habits from an early age, and teachers can play a very significant role in the process. It is also necessary to help parents develop awareness of the importance of this topic and improve their own dietary habits because, according to research, there is a higher percentage of obese children in families where the parents are obese. Through different activities on the topic of healthy eating, children were empowered to try foods that they had previously refused due to various prejudices. It has been shown that by learning and researching through play, with the support of their peers, children can correct their bad dietary habits and lay the foundations of healthy growth and development.

4. REFERENCES

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