STUDY ON THE IMPORTANCE OF PHYSICAL EDUCATION LESSONS IN COMBATING OBESITY IN PRIMARY SCHOOL

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ABSTRACT

Childhood obesity has become a significant public health concern worldwide, with long-term implications for physical, psychological, and social well-being. This study examines the role of physical education (PE) lessons in primary schools as a strategic measure to prevent and combat obesity among young children. The research investigates current trends in childhood obesity, the benefits of regular physical activity, and the effectiveness of structured PE programs in promoting healthy lifestyles. A mixed-methods approach was used, combining quantitative data from student health assessments and physical activity levels with qualitative insights from teacher interviews and classroom observations. Findings indicate that regular and well-structured PE lessons significantly contribute to increased physical activity, improved fitness levels, and the development of positive attitudes towards a healthy lifestyle among primary school students. The study highlights the importance of integrating comprehensive physical education into school curricula as a proactive measure against obesity and emphasizes the need for collaboration between educators, parents, and policymakers to foster supportive environments for children's health.

KEYWORDS*: physical education, obesity, primary school*

J.E.L. Classifications: I12, I18, I21

1.INTRODUCTION

In contemporary society, characterized by a fast-paced lifestyle and increasing digitalization, children's physical activity has significantly decreased. Time spent in front of screens, unbalanced nutrition, and lack of movement contribute to a growing problem — childhood obesity. This issue is not merely aesthetic but primarily a public health concern, affecting the physical, psychological, and emotional development of the child.

In this context, physical education lessons play a fundamental role in shaping a positive attitude toward movement and promoting an active and healthy lifestyle. Through their organized structure, varied content, and adaptation to age-specific needs, physical education lessons serve as an effective tool in preventing and combating obesity. They contribute to the harmonious development of the body, increase physical endurance, improve motor coordination, and, importantly, foster habits of an active lifestyle.

The present study, entitled *"Study on the Importance of Physical Education Lessons in Combating Obesity in Primary School"*, aims to highlight the essential role of this subject in maintaining and improving students' health. The case study conducted on two primary school classes focuses primarily on observing how consistent participation in physical education lessons influences children's physical development and weight management.

The scientific approach seeks to analyze the impact of specific physical exercises on children's bodies and demonstrate that properly planned and engaging physical education lessons can significantly contribute to combating childhood obesity. Furthermore, the study emphasizes the role of the physical education teacher in motivating students and creating a positive environment that encourages movement and the adoption of healthy behaviors.

Through this research, the aim is to underline the importance of physical education not merely as a mandatory school subject but as a comprehensive educational tool capable of forming lasting movement habits, supporting children's psychological balance, and reducing the risks associated with sedentary behavior and poor nutrition. At the same time, the study draws attention to the necessity of parental and school community involvement to support educational efforts, ensuring an integrated approach to addressing obesity in early school-age children.

The choice of this topic was determined by the alarming increase in the number of children facing weight-related problems from an early age. In recent years, childhood obesity has become one of the greatest challenges of modern society, being regarded by the World Health Organization as a true "epidemic" of the 21st century. Lack of physical activity, high-calorie diets, and excessive time spent in front of screens contribute to physical and psychological imbalances, which can profoundly affect the harmonious development of the child.

Physical education, through lessons conducted at school, provides an ideal framework for developing and consolidating motor skills and fostering a positive attitude toward physical activity. Particularly at the primary school level, when a child is undergoing intense growth and development, physical education lessons play a major role in shaping healthy behaviors and promoting overall physical development.

Obesity is a pathological condition caused by the excessive accumulation of adipose tissue in the body, beyond the level required for normal physiological functioning. The World Health Organization (WHO) defines obesity as the result of an energy imbalance between caloric intake and caloric expenditure, which leads to the storage of excess energy in the form of fat.

In medical and educational practice, obesity is assessed using the Body Mass Index (BMI), a ratio of weight to height. In children, BMI interpretation is based on age and sex, using percentile (%) charts recommended by international health organizations, which allow for the early identification of excess body weight.

In children, obesity often results from a combination of unhealthy eating habits and low levels of physical activity, which is why educational interventions are essential.

Genetic factors – Genetic predisposition influences how the body regulates appetite, stores fat, and uses energy. Children from families with a history of obesity are at a higher risk of developing the condition. However, genetics do not act alone; their effects are more pronounced in the presence of a sedentary lifestyle and poor dietary habits.

Behavioral and dietary factors – Eating habits play a major role in the development of obesity:

- high consumption of foods rich in sugar, fat, and calories (fast food, sweets, snacks);
- oversized portions and irregular meals;
- insufficient intake of fruits and vegetables;
- frequent consumption of soft drinks or sweetened beverages;
- frequent snacking between meals.

In children, diet is largely influenced by the family, making the role of parents crucial in establishing healthy habits.

Sedentary lifestyle – Reduced physical activity is one of the main contributing factors to obesity. Time spent in front of screens (phone, tablet, television, computer) replaces physical activity,

lowering daily energy expenditure. At the primary school level, sedentary behavior is often caused by:

- lack of outdoor play;
- preference for digital activities;
- insufficient involvement in organized sports.

Psychological factors – Stress, anxiety, boredom, and poor emotional control can lead to emotional eating in both adults and children. Children may seek comfort in foods high in sugar and fat, which promotes excessive calorie accumulation.

Socio-economic factors – Socio-economic status influences access to healthy foods, sports activities, and information about a balanced lifestyle. In some families:

- processed foods are more accessible than fresh foods;
- there is limited time or resources for organized physical activities;
- adult dietary habits are automatically adopted by children.

Environmental factors – The environment in which a child lives can either encourage or discourage an active lifestyle.
The lack of playgrounds, absence of community sports activities, or a weak culture of physical activity contributes to the development of obesity. On the other hand, an active school environment, with well-structured physical education lessons, can serve as an important protective factor.

Veronica Mocanu emphasizes that childhood obesity primarily arises from imbalances in eating behaviors and modern lifestyle patterns: children do not always eat regularly, follow diets based on processed foods, and lack proper hydration and physical activity habits. She argues that these unhealthy practices are exacerbated by an inappropriate lifestyle and can be prevented if addressed early in childhood through nutritional education and the establishment of healthy eating routines (Mocanu V., 2021).

2. MATERIAL AND METHOD

2.1. **Research Objectives**

The study aims to investigate the role of physical education lessons in preventing and combating obesity among primary school students, highlighting how regular physical activity influences children's health and overall development.

Specific objectives:

1. To identify the main factors contributing to the onset of obesity in children (dietary, behavioral, genetic, psychological, and socio-economic).
2. To analyze the effects of consistent participation in physical education lessons on physical development, motor coordination, and attitudes toward physical activity.
3. To evaluate the importance of strategies and methodologies applied in physical education lessons for promoting an active lifestyle.
4. To highlight the role of the teacher and the school environment in motivating students and creating a climate conducive to physical activity.
5. To emphasize the importance of parental and community involvement in supporting the practice of a healthy lifestyle.

2.2. **Research Methods**

In this study, several research methods were employed to investigate the role of physical education lessons in preventing and combating obesity among primary school students. The **documentation method** was used to review specialized literature, guidelines from the World Health Organization, and relevant studies on childhood obesity and the benefits of physical activity. The **statistical-mathematical method** allowed for the analysis of quantitative data, including body mass index (BMI) measurements and other physical parameters, to assess the impact of regular physical education on children's health. Additionally, the **observation method** was applied during physical education lessons to monitor students' participation, engagement, motor coordination, and overall physical activity levels. Together, these methods provided a comprehensive understanding of how structured physical education contributes to maintaining a healthy weight and promoting active lifestyles in primary school children.

2.3. Research Subjects

The children in this study are primary school students, in the 2nd grade, aged 8–9 years.

2.4. Research Hypothesis

Regular and consistent participation in physical education lessons significantly contributes to the prevention and reduction of obesity among primary school students by improving their level of physical activity, promoting harmonious physical development, and fostering positive attitudes toward a healthy lifestyle.

RESULTS AND DISCUSSIONS

The initial measurements provide us with additional information necessary for this study and help us better understand how we can support these students.

Table 1. Values of the main anthropometric indicators in boys and girls

Name	Age	Gender	Height	Weight	Pelvis circumference	Abdominal circumference	Thigh circumference
C.	8 ani	M	135 cm	41 kg	81 cm	72 cm	48 cm
T.	9 ani	M	145 cm	52 kg	88 cm	81 cm	50 cm
K.	8 ani	M	145 cm	52 kg	90 cm	82 cm	51 cm
D.	8 ani	M	132 cm	23 kg	68 cm	57 cm	34 cm
M.	8 ani	M	131 cm	26 kg	65 cm	59 cm	37 cm
G.	8 ani	F	137 cm	25 kg	66 cm	53 cm	39 cm
M.	8 ani	F	125 cm	32 kg	78 cm	70 cm	42 cm
D.	8 ani	M	127 cm	25 kg	68 cm	57 cm	38 cm
D.	9 ani	F	125 cm	31 kg	73 cm	66 cm	40 cm
I.	8 ani	M	130 cm	25 kg	72 cm	62 cm	39 cm

A.	9 ani	F	145 cm	32 kg	70 cm	59 cm	41 cm
V.	8 ani	M	138 cm	29 kg	72 cm	59 cm	37 cm
A.	9 ani	F	143 cm	42 kg	84 cm	74 cm	45 cm
A.	8 ani	F	138 cm	27 kg	67 cm	58 cm	38 cm
I.	8 ani	M	140 cm	38 kg	80 cm	69 cm	45 cm
P.	9 ani	M	141 cm	34 kg	82 cm	70 cm	47 cm
C.	8 ani	M	138 cm	32 kg	78 cm	60 cm	37 cm
R.	8 ani	F	142 cm	35 kg	81 cm	62 cm	38 cm
M.	9 ani	F	139 cm	33 kg	77 cm	56 cm	42 cm

The analysis of the data shows that several children have above-average weight for their age and height, suggesting a risk of overweight or childhood obesity. These children generally exhibit higher abdominal and pelvic circumferences, indicating central fat accumulation.

Relevant examples:

- **C.**, boy, 8 years old, 135 cm, 41 kg – pelvic circumference 81 cm, abdominal circumference 72 cm
- **T.**, boy, 9 years old, 145 cm, 52 kg – pelvic circumference 88 cm, abdominal circumference 81 cm
- **K.**, boy, 8 years old, 145 cm, 52 kg – pelvic circumference 90 cm, abdominal circumference 82 cm
- **A.**, girl, 9 years old, 143 cm, 42 kg – pelvic circumference 84 cm, abdominal circumference 74 cm
- **I.**, boy, 8 years old, 140 cm, 38 kg – pelvic circumference 80 cm, abdominal circumference 69 cm

These children have anthropometric values significantly higher than their peers of the same age, highlighting the need for individualized assessment and the implementation of preventive and educational measures regarding nutrition and physical activity.

The analysis of anthropometric data highlights a significant variability in weight and body circumferences among children of the same age, indicating the presence of both underweight and overweight children. This diversity underscores the need for individualized assessment of health status and the risk of childhood obesity.

Overweight children generally exhibit higher abdominal and pelvic circumferences, suggesting a predominant accumulation of central adipose tissue and an association with potential

metabolic risks. This emphasizes the importance of monitoring anthropometric parameters and implementing preventive interventions tailored to each child.

Furthermore, overweight affects both boys and girls, and the distribution of weight and body fat does not depend solely on sex but also on individual factors and lifestyle. The results highlight the necessity of promoting educational and preventive programs aimed at encouraging the maintenance of optimal weight and harmonious development in children.

Photo 1. Images of some of the measured children

3. CONCLUSIONS

Childhood obesity often arises from a combination of unbalanced eating habits—emotional eating, high consumption of high-calorie foods, and irregular meal patterns—together with psychological and environmental factors that influence the child's relationship with food. The

authors emphasize that low levels of physical activity are a major factor that sustain and worsen obesity, as children spend increasing amounts of time in sedentary activities. Regular physical activity not only prevents excessive weight gain but also helps regulate eating behavior and improves mental well-being (Enea, V. & collaborators).

Prof. Dr. Constantin Dumitrescu points out that the reduction of time dedicated to physical activity among children—particularly through decreased physical education classes and increased sedentary activities—promotes the onset of energy imbalances that lead to obesity. He emphasizes that regular physical exercise improves the body's ability to manage calories and stimulates the harmonious development of the metabolic, muscular, and cardiovascular systems. In his view, physical education plays a crucial role in preventing and reducing obesity, as it helps children establish healthy motor routines and an active relationship with their own bodies (Dumitrescu C.P., 1994).

The analysis of anthropometric data highlights the presence of children with above-average weight for their age and height, indicating a risk of overweight and childhood obesity.

Overweight children exhibit higher abdominal and pelvic circumferences, suggesting a predominant accumulation of central adipose tissue, which is associated with future metabolic risks.

Individual differences in weight and circumferences emphasize the importance of personalized assessment and monitoring, as well as preventive interventions tailored to each child.

Overweight affects both boys and girls, and fat distribution does not depend solely on sex but also on individual factors and lifestyle.

The obtained results support the need for the implementation of educational and preventive programs aimed at promoting the maintenance of optimal weight and harmonious development in children.

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