

Science, Movement and Health, Vol. XX, ISSUE 2 Supplement, 2020

September 2020, 20 (2 Supplement): 222 - 226

Original article

THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND NUTRITION LEVELS OF SECONDARY SCHOOL STUDENTS WITH OBESITY

EMINE ERGIN¹, NESLIHAN LOK¹, SEFA LOK²

Abstract

Objective. The aim of this study was to determine the physical activity and nutrition levels of secondary school students and to evaluate their relationship with obesity.

Methods. The research is descriptive relational type. The population of the study consisted of students between the ages of 13 and 14 who study at 7th and 8th grades in a secondary school in the Selçuklu district of Konya city center. 146 students who agreed to participate in the research without sampling were included in the study. In collecting data; It consists of three sections: the socio-demographic and anthropometric data of the students, and an information form (25 questions with open and closed ends) that include nutritional and physical activity habits. The first part consists of the "family information form" (5 questions), the second part consists of the "nutritional habits" (9 questions) and the third part consists of the "physical activity levels (9 questions).. Number and percentage distributions and chi-square test were used to evaluate the demographic data of the research.

Results. The average age of the students was 13.86 ± 0.46 , their average height was 159.32 ± 8.32 , and their average body weight was 52.36 ± 9.34 . 53.7% of the students are 7th grade and 56.4% are girls. When the education level of the mother was analyzed, it was determined that 33.4% of the education level of the mother and the university and 36.8% of the father and the state of education were above. When the occupation of the mother and father was evaluated, 51% of the students were found to be housewives of their mothers and 42.2% of them were working as civil servants / workers. When the percentile values of the students were examined, it was observed that 16.3% were obese, 51.7 were overweight, 10.2% were normal weight and 21.8% were weak. When students' physical activity levels are evaluated; It was observed that 66.6% of them went to school on foot or by bicycle, 44.9% of them did not play physical activity / games in the school, 36% of them were engaged in a sports branch for an average of 0-1 years.

Conclusion. In line with the results obtained from the study; When students were evaluated in terms of both physical activity and nutritional habits, it was seen that they were in a risky group in terms of obesity.

Key words. Secondary school, students, nutrition, physical activity, obesity.

Introduction

Physical activity is defined as all bodily movements that individuals make to consume energy. Factors such as rapid urbanization, crowded population, increasing poverty, crime rates and traffic density affect the physical activity of individuals. Physical activity; It is directly related to protecting individuals from non-communicable chronic diseases, increasing fitness, strengthening muscles and increasing their quality of life (Roh et al. 2017).

Obesity occurs with low physical activity in children. Watching television is one of the factors that reduce physical activity in children. Today, the average time a child spends on TV is three hours. When this period is added to the time spent at the computer, this period increases to an average of six hours. As the time spent by the children at the

computer and television increases, their intensity of physical activity decreases. For a healthy life, children need to do physical activity for at least 60 minutes a day. In addition to increasing the success of the child in school, physical activity in childhood ensures that the child's physical and psychological development and brain functions are healthier. As a result of the 13-week exercise on overweight children aged 7-11 in the USA, it was revealed that brain functions improved along with the body weight control of children, and they positively affect their math skills and decision-making functions (Yavuz and Özer 2019).

Children who do not do enough physical activity and cannot get the right eating habits become risky in terms of obesity. Increased body weight is an important risk factor for diseases such as cardiac

¹Selcuk University Nursing Faculty, Konya, Turkey

²Selcuk University Sport Sciences Faculty, Konya, Turkey

E-mail: sefalok@selcuk.edu.tr (Corresponding author)

*the abstract was published in the 20th I.S.C. "Perspectives in Physical Education and Sport" - Ovidius University of Constanta, May 28-29, 2020, Romania

Received 12.04.2020 / Accepted 04.05.2020

disorders, type 2 diabetes, increased cholesterol levels, and colorectal cancers. The common method used to identify childhood obesity is the body mass index (BMI). Many countries use BMI tables specially developed for age and gender specific to their communities and differ in the scores used for

calculations. Percentile curves are used because the age and gender of children should be taken into consideration in order to evaluate obesity in children. The table containing percentile values for children 2 years and older is presented below (Çukur and Ariti 2017; Hasamnis et al. 2017).

Table 1. Interpretation of BMI in children according to percentile values

Classification for children	Body Mass Index
(2 years old and above)	<5 percentil
Weak	5-85 percentil
Normal weight	85-95 percentil
Overweight	>95 percentil
Obese	

One of the most important causes of obesity in children is the lack of physical activity rather than overeating. Therefore, one of the main strategies to be followed in the treatment of obesity in children should be to reduce immobility by encouraging children to do physical activity (Burns et al. 2016). Thanks to regular exercise programs, individuals can lose weight more regularly and permanently. Practicing healthy nutrition programs along with exercise ensures long-term weight loss. It also acts as a stimulant to the lipoprotein lipase enzyme, which destroys fat from exercise blood circulation. For this reason, the aim of this study was to determine the physical activity and nutrition levels of secondary school students and to evaluate their relationship with obesity.

Research Questions

1. What is the physical activity level of the students?
2. What are the students' nutritional levels?
3. Do the students' physical activity and nutrition levels vary according to their socio-demographic characteristics?
4. What is the relationship between students' physical activity and nutritional levels and obesity?

Methods

The research is of descriptive relational type. The population of the study consisted of students between the ages of 13 and 14 who study at 7th and 8th grades in a secondary school in the Selçuklu district of Konya city center. 146 students who agreed to participate in the research without sampling were included in the study.

Collecting data

Tools, materials and methods used;
For weight (kg) - height (cm) measurement; Libra and tape measure
It consists of three sections: the socio-demographic and anthropometric data of the students, and the information form (25 questions with open and

closed ends) that include nutrition and physical activity habits. The first part is composed of the "family information form" (5 questions), the second part is the "eating habits" (9 questions) and the third part is the "physical activity levels (9 questions).

Length: The measurements of the students included in the study were made in Physical Education and Sports course. Using Seca brand height measuring tape, students' feet are bare and adjacent; The length from the head to the floor was measured by measuring the length of the head, back, hips and toe on the flat wall, allowing them to touch and stand ready.

Body Weight Measurement: After the portable Tefal brand electronic scale was placed on a flat surface, measurements were made by taking care of students to have bare feet. BMI (body weight / height²) of all students was calculated using height and weight measurements. According to these results, it was classified as weak under 5 percentile, normal between 5-85 percentile, overweight between 85-95 percentile, and over 95 percentile as obese.

Healthy foods; at breakfast; tea, cheese, olives, eggs etc. foods, lunch and dinner; home cooking
Unhealthy foods; tea, pastry, toast, bagel, etc. foods

Ethical and Legal Aspects of the Research

Ethical consent, corporate consent, and consent from parents and children were obtained to conduct the research. The purpose of the research before the start of the research, the duration and duration of the research will be explained briefly in a language they will understand, and the principle of "Enlightened Consent", stating that the children can withdraw from the research whenever they want, the principle of "Autonomy" is said to be preserved after sharing the information with the researcher. was introduced. Before the forms to be used in the research were given, necessary explanations were

made orally, and care was taken to create a quiet environment with little stimulus during application.

Statistical analysis

After the data were collected, the option that each individual specified for each item in the questionnaire was entered into the SPSS 21 program by the researchers and the scores they received were calculated. Number and percentage distributions and chi-square test were used to evaluate the demographic data of the research. Results were evaluated at 95% confidence interval and $p < 0.05$ significance level.

RESULTS

Table 2. Distribution of Percentile Values of Students

Classification for children	n	%
(2 years old and above)	32	21,8
Weak (<5 percentile)	15	10,2
Normal Weight (5-85 percentile)	76	51,7
Overweight (85-95 percentile)	23	16,3

When students' physical activity levels are evaluated; It was observed that 66.6% of them went to school on foot or by bicycle, 44.9% of them did not play physical activity / games in the school, 36% of them engaged in a sport branch for an

The average age of students is 13.86 ± 0.46 , their average height is 159.32 ± 8.32 , and their average body weight is 52.36 ± 9.34 . 53.7% of the students are 7th grade and 56.4% are girls. When the education level of the mother was analyzed, it was determined that 33.4% of the education level of the mother and university and 36.8% of the father and the education level were university. When the occupation of the mother and father is evaluated, 51% of the students were found to be housewives of their mother and 42.2% of them were working as civil servants / workers.

When the percentile values of the students were examined, it was seen that 16.3% were obese, 51.7 were overweight, 10.2% were normal weight and 21.8% were weak (Table 2).

average of 0-1 years. The average daily sleep time is 41.5% 6 hours or less, 50.3% watch TV for 4 hours or more, 63.2% consume food (78, 8) has been found to be unhealthy food (Table 3).

Table 3. Physical Activity Levels of Students

Variables	Number (n)	Percent (%)
Way to and from school		
On foot / by bike	98	66,6
Private / Public Transport	48	33,4
Physical activity / playing status in school		
Everyday	45	30,6
2-3 days / Sometimes	36	24,5
No	65	44,9
Dealing with a sports branch		
Yes	53	36,0
No	93	64,0
Time to deal with sports (n: 53)		
0-1 years	26	17,7
2-5 years	15	10,2
6 years and over	12	8,1
Average Sleep Time per Day		
6 hours and less	61	41,5
7-9 hours	53	36,0
10 hours or more	32	22,5
TV watching time		
2 hours and less	27	18,4
2-4 hours	46	31,3
4 hours and over	73	50,3
Computer, ipad / tablet usage time		

2 hours and less	25	17,0
2-4 hours	52	35,4
4 hours and over	69	47,6
Food consumption at the computer or TV		
Yes	93	63,2
No	53	36,8
Food preference at the computer or TV		
Unhealthy food	116	78,8
Healthy food	30	21,2

When students' eating habits are evaluated; It was observed that 57.8% did not eat regular breakfast, 51.7% did not eat regular lunch and 46.3% ate regular dinner. It was determined that 54.4% of the students consumed snacks, 92.5% received food and drink from the school canteen, 85.0% consumed ready-made food, and 94.5% consumed carbonated and sugary drinks and food.

Discussion

Nutrition; It is the intake and consumption of the necessary nutrients in order to protect the individual's growth and health. Nutrition is also effective on children's growth, development and learning success. Regardless of age groups, children are in a continuous process of growth and development. In the growing age of children, the amount of energy and nutrients needed by the body is higher than in adulthood.

When students' physical activity levels are evaluated; It was observed that 66.6% of them went to school on foot or by bicycle, 44.9% of them did not play physical activity / games in the school, 36% of them were engaged in a sports branch for an average of 0-1 years. The average daily sleep time is 41.5% 6 hours or less, 50.3% watch TV for 4 hours or more, 63.2% consume food (78, 8) has been found to be unhealthy food. These research findings are similar to the literature (Williams et al. 2019; Lentz and Brown 2019).

When students' eating habits are evaluated; It was observed that 57.8% did not eat regular breakfast, 51.7% did not eat regular lunch and 46.3% ate regular dinner. It was determined that 54.4% of the students consumed snacks, 92.5% received food and beverages from the school canteen, 85.0% consumed instant food, and 94.5% consumed carbonated and sugary drinks (Hasamnis). et al. 2017; Burns et al. 2016; Jolley, 2019).

Conclusion

In line with the results obtained from the study; When students were evaluated in terms of both physical activity and nutritional habits, it was seen that they were in a risky group in terms of obesity. It is important to raise the awareness of students about doing regular physical activities,

reducing the time spent on TV and computers, getting regular breakfast, lunch, dinner and snacks, and to raise awareness in these meals, especially in order to choose healthy foods. During childhood, the child is subject to the nutrients that his parents provide to himself. For this reason, parents should know that their own eating habits will be imitated by their children, and the foods they love and dislike should be accustomed to the different types of food, thus gaining the right eating habit.

References

- Williams NC, Killer SC, Svendsen IS & Jones A, Immune nutrition and exercise: narrative review and practical recommendations. *European journal of sport science*, 2019, 19(1), 49-61.
- Lentz TA & Brown C, Mindfulness and health behaviors in college students: The moderating role of sleep. *Journal of American College Health*, 2019, 67(6), 505-514.
- Jolley D, *Misconceptions and Critical Thinking Ability In Undergraduate Exercise Science Students, Vocational Fitness Students, and Exercise Professionals* (Doctoral dissertation, Curtin University), 2019.
- Hasamnis A, Patil S. Tun ZM & binti Ruslan NA Nutrition And Exercise Habits Amongst Medical Students In A Private University In Malaysia. In *Proceedings of the International Conference on Public Health*, 2017, December, (Vol. 3, No. 2, pp. 285-292).
- Burns JA, Swysgood L & Antonaros T, (Nutrition and Exercise: Best of Both Worlds, 2016.
- Roh HT, Cho SY, Yoon HG & So WY, Effect of exercise intensity on neurotrophic factors and blood-brain barrier permeability induced by oxidative-nitrosative stress in male college students. *International journal of sport nutrition and exercise metabolism*, 2017, 27(3), 239-246.
- Yavuz CM & Özer BK, Adölesan dönem okul çocuklarında beslenme alışkanlıkları ve



beslenme. *Journal of Tourism and Gastronomy Studies*, 2019, 225, 243.
Çukur A & ARITI E, Obezite vergilerinin obezite ile mücadelede yeri: türkiye için bir değerlendirme. *Sayıştay Dergisi*, 2017, 106.