

The level of physical activity of preschoolers while they are in kindergarten during the summer

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Abstract

Objective of the study was to calculate the amount of physical activity engaged in by preschoolers during their time at a preschool facility during the summer and to compare it with the levels of activity observed in the fall, winter, and spring.

Methods and structure of the study. To gather data on the physical activity of preschoolers, the researchers employed the method of pedometry. The number of locomotives was calculated using the Yamasa Corp., Yamax DW-200 Sh 25 pedometer, which was manufactured in Tokyo, Japan. The study examined the pedometer data of 234 children, including 132 children aged 5-6 (70 girls, 62 boys) and 102 children aged 3-4 (46 girls, 56 boys).

Results and conclusions. Upon examining the data obtained through pedometry, it was observed that the level of physical activity among preschoolers during the summer was higher compared to the autumn, winter, and spring seasons. These findings provide valuable insights for the development of a more effective physical education and wellness program, taking into account the natural variations in children's physical activity throughout the year.

Keywords: motor activity, physical culture and wellness process, preschool educational institution.

Introduction. Over the past decades, we have seen a change in children's motor activity patterns, as they have become less likely to play outdoors due to a number of reasons: changing parental attitudes toward child safety, the influence of modern gadgets, etc. Therefore, modern parents, in order to avoid a deficit of motor activity in their children, offer them to attend various sports sections from preschool age [1, 3, 4, 5]. In this regard, the physical activity of modern children has changed its vector from independent, voluntary activities in the fresh air to structured, directive activities indoors. It is worth noting that this phenomenon is reflected not only in a decrease in the physical and functional indicators of children, but also often contradicts the basic provisions of preschool childhood, which is considered a unique period in the formation of a person's personality. Also, in organized joint motor activity, there is no element of the formation of the child's subjective position, because all motor activ-

ity is planned in advance and provided to the child by the teacher.

Objective of the study was to calculate the amount of physical activity engaged in by preschoolers during their time at a preschool facility during the summer and to compare it with the levels of activity observed in the fall, winter, and spring.

Methods and structure of the study. To collect information on the number of motor acts of preschool children, the pedometer method was used in the study. The number of locomotions was counted using a pedometer «Yamax DW-200 Sh 25» manufactured by Yamasa Corp., Tokyo, Japan. The study was conducted at 4-hour intervals in the morning and evening in accordance with the routine moments of individual age categories of children (from 9:00 to 13:00 hours, from 15:00 to 19:00 hours). The study analyzed the data from the pedometer of 234 children (132 children aged 5-6 years (70 girls, 62 boys), 102 children aged 3-4 years (46 girls, 56 boys)).



Results of the study and discussion. Analyzing the results of the study presented in Table 1, it was found that the number of locomotions in children of all age categories of preschool age in the summer period increased significantly compared to the results in the autumn, winter and spring periods [2]. Thus, comparing the results of the volume of motor activity, we can conclude that in girls aged 5–6 years, the number of locomotions in the summer period compared to the autumn, winter and spring periods increased by an average of 1 535 motor acts, while the distance traveled increased by an average of 1,13 km. In boys aged 5–6 years, there is an increase in the number of locomotions by an average of 2 660 motor acts and the distance traveled by an average of 0,18 km (see table).

In girls aged 3–4, the number of motor acts during their stay in a preschool educational institution in the summer period increased by an average of 693 locomotions compared to the results obtained in the autumn, winter and spring periods, and the distance traveled on average was 2.39 km, which is 0.31 km more than in the previously noted periods. The results of boys aged 3–4 in testing aimed at identifying the number of motor acts showed that in the summer period the results increased by an average of 1248 locomotions. Also, analyzing the results of pedometry in boys of this age category, we can observe an increase in the distance traveled by an average of 0.78 km (Table 1). Next, we analyzed the results of the number of locomotions of girls aged 5–6 by time periods during the day. The data obtained show an increase in motor activity in the morning from 9:00 to 10:00, from 11:00 to 12:00 and in the evening from 18:00 to 19:00. These results are presented in a wave-like form, which indicates the periods and characteristics of children's motor activity during the day (Figure 1).

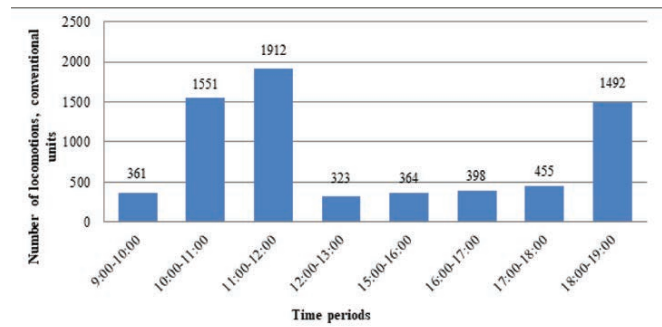


Figure 1. The number of motor acts of girls aged 5–6 years during their stay in kindergarten in the summer

We also associate these values with the fact that in the summer, educators meet children outside, continuing their walk on the preschool playground immediately after the first meal (breakfast). In preschool education practice, there are three periods of increased motor activity in children: morning (from 8:00 to 9:00), daytime (from 10:30 to 12:00), and evening (from 16:30 to 19:00). Figures 1 and 2 clearly show the daytime period of increased motor activity. The time period from 10:00 to 12:00 in the summer is not limited by routine moments, children independently perform motor actions, while the time period from 11:00 to 12:00 for girls aged 5–6 is represented by 361 locomotions more on average, which confirms the periods of increased motor activity in preschool children. Analyzing the results of pedometry of boys aged 5–6 years during their stay in kindergarten in the summer, as well as in girls of this age, we can observe an increase in the number of locomotions compared to other times of the year.

From data in Figure 2 shows that in boys there are two significant periods of increasing the volume of motor actions. The first period is 2 hours long, during this period from 10:00 to 11:00 the number of locomotions in boys aged 5–6 is 1825 motor acts, while from 11:00 to 12:00 the number of loco-

The volume of physical activity of preschoolers during their stay in preschool educational institutions

Indicators	Girls 5-6 years old	Boys 5-6 years old	Girls 3-4 years old	Boys 3-4 years old
	$\bar{X} \pm \sigma$	$\bar{X} \pm \sigma$	$\bar{X} \pm \sigma$	$\bar{X} \pm \sigma$
Summer time period				
Number of locomotions, conditional units	6856±1215	7981±1114	4653±1024	5512±1069
Distance traveled, km	3,35±0,62	4,05±0,96	2,39±0,61	2,92±0,58
Autumn, winter and spring periods of time				
Number of locomotions, conditional units	4482±1036	6090±978	3960±963	4264±952
Distance traveled, km	2,22±0,54	3,18±0,87	2,08±0,57	2,14±0,61

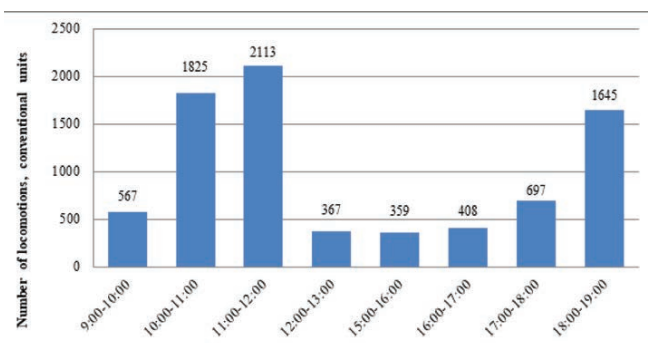


Figure 2. The number of motor acts of boys aged 5–6 years during their stay in kindergarten in the summer

tions is 2113 motor acts. It is worth noting that the indicators of children's motor activity should be affected by the process of fatigue during the period of their motor activity, thereby reducing the number of locomotions, but in this case we observe an increase in the number of locomotions by 288 conventional units. We associate these indicators with the process of running in.

Conclusions. In the process of analyzing the obtained results of pedometry, an increase in the volume of motor activity of preschool children in the summer was revealed compared to the autumn, winter and spring periods of time. The obtained research results will allow us to design the physical education and health process more effectively, in accordance with the natural changes in the child's motor activity in various time frames. Based on the results of the study, it is

planned to develop recommendations on the optimal time for performing joint organized activities aimed at the cognitive, physical, artistic and aesthetic, speech development of preschoolers within the framework of the regime moments of the educational program of the preschool institution.

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