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Characteristics of Weekly Physical Activity among University Students

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Abstract
Rational physical activity is a fundamental factor in maintaining the physical health of young people. Studies by domestic researchers indicate a general decline in the level of physical activity among students under conditions of distance learning and the influence of stress-inducing factors. However, the choice of a future profession can significantly influence lifestyle and awareness of the need for regular physical activity. The aim of the study was to determine the volume and structure of weekly physical activity among first-year students majoring in "Therapy and Rehabilitation."
Methods: The short form of the International Physical Activity Questionnaire (IPAQ) was used to assess physical activity. The study included 88 first-year students at the Ivan Boberskyi Lviv State University of Physical Culture (54 females and 34 males, aged 17–23 years). Weekly energy expenditure for walking, moderate-intensity physical activity, and vigorous-intensity physical activity was determined in MET-min/week and kcal/week.
Results: The students' overall weekly level of physical activity was high, with an average energy expenditure of 7,467 MET-min/week (8,213.70 kcal/week). Walking dominated the activity profile (3,267 MET-min/week, with 72% of respondents engaging in it daily) along with high-intensity physical activity (3,840 MET-min/week, practiced 3–7 days a week by about 70% of individuals). In contrast, a significant deficit in moderate-intensity physical activity was identified: only 3% of students engaged in it daily, while 30% of respondents completely ignored this type of activity.
Conclusion: The indicators of the total weekly energy expenditure among first-year students majoring in "Therapy and Rehabilitation" are high, which, in our opinion, is due to the specific nature of the chosen profession and the university. At the same time, a pronounced structural imbalance was observed due to a lack of moderate-intensity physical activity, highlighting the need to optimize and rationally plan students' physical activity regimens to preserve their physical health.

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Introduction

The issue of physical activity among children and adolescents is the focus of numerous researchers. This interest stems from the crucial role of physical activity in maintaining human health at any age, particularly among students [4, 9, 20, 21]. Above all, physical activity is of particular importance during a child's growth and development; it positively influences the formation of the musculoskeletal system, improves the functioning of internal organs, and ensures the proper functioning of all physiological processes and systems occurring in a child's body. Movement strengthens health, increases the body's resistance and immune defense, maintains physical capacity, promotes normal growth and development of the child's body, and stimulates rhythmic

movements and intellectual processes. In the process of mastering various motor skills and abilities, psychomotor and vegetative functions are refined, the quality of motor activity improves, and children's physical capabilities develop. The close relationship between physical activity and mental development, as well as the mental well-being of preschoolers, has been demonstrated by the following researchers [10, 15]. An analysis of the level of physical activity among children of different ages in various countries confirms that a "sedentary" lifestyle is characteristic of a significant number of children of all ages in virtually every country in the world. At the same time, these indicators are lowest in countries with a relatively low GDP per capita or with a large population of low-income individuals [8]. According to researchers, only one in ten students in Ukraine has an adequate level of physical activity that meets WHO recommendations [15]. Long-term studies by Ukrainian researchers on the physical activity, physical health, and lifestyle of medical students also confirm its low level, both in the period before the emergence of COVID-19 and the full-scale invasion of Russian troops into Ukraine, as well as its significant decline with the transition to distance and blended learning [9, 14]. It is known that rationally organized physical activity can counteract the effects of stressors associated with academic activities and may be an effective means of improving psychological and emotional well-being and enhancing successful adaptation to the educational process [3, 4, 17]. However, in addition to life circumstances, researchers note that the choice of future profession influences a person's activity level and lifestyle adaptation. Studies show that physical activity, in many of its forms, is most commonly present among those for whom circumstances–that is, their chosen future profession–require it. Only later do awareness and the need for physical activity emerge [2]. An analysis of current research on the physical activity of college students has revealed only a few studies addressing the issue of physical activity and lifestyle among students majoring in "Therapy and Rehabilitation," which confirms the relevance of this topic [16, 18]. Given the specific nature of training for students majoring in "Therapy and Rehabilitation," the intensity of their academic workload, and their awareness of the need to maintain their own health, fostering a responsible and value-based attitude toward lifestyle and adherence to optimal daily physical activity takes on particular importance. After all, all of this will contribute to the successful fulfillment of the social and professional roles of future physical therapists and occupational therapists.

Thus, the aim of the study was to determine the weekly volume of physical activity among students majoring in "Therapy and Rehabilitation" and to analyze the structure of their weekly physical activity.

Materials and Methods

To determine the weekly physical activity of students at the Ivan Boberskyi Lviv State University of Physical Culture, the IPAQ questionnaire (short form) [22] was used. The survey included 88 first-year students majoring in "Therapy and Rehabilitation," comprising 54 females and 34 males, aged 17–23. The "short" version consists of seven questions covering four areas of activity and allows for the determination of weekly energy expenditure for various types of physical activity, such as walking, moderate- and high-intensity physical activity in MET-min/week and kcal/week.

Results

The survey results showed that, on average, the weekly level of physical activity was high.

Table 1: Students' weekly energy expenditure (n=88)

Type of physical activity	Energy expenditure	
	MET-min/week	kcal/week
Walking	3267	3593.70
Moderate physical activities	360	396.00
Vigorous physical activities	3,840	4,224.00
Total	7,467	8,213.70

Only 3% of students engaged in moderate-intensity physical activity daily. The vast majority of students engaged in such activity no more than three days a week. 30% of students indicated that they did not engage in this type of physical activity.

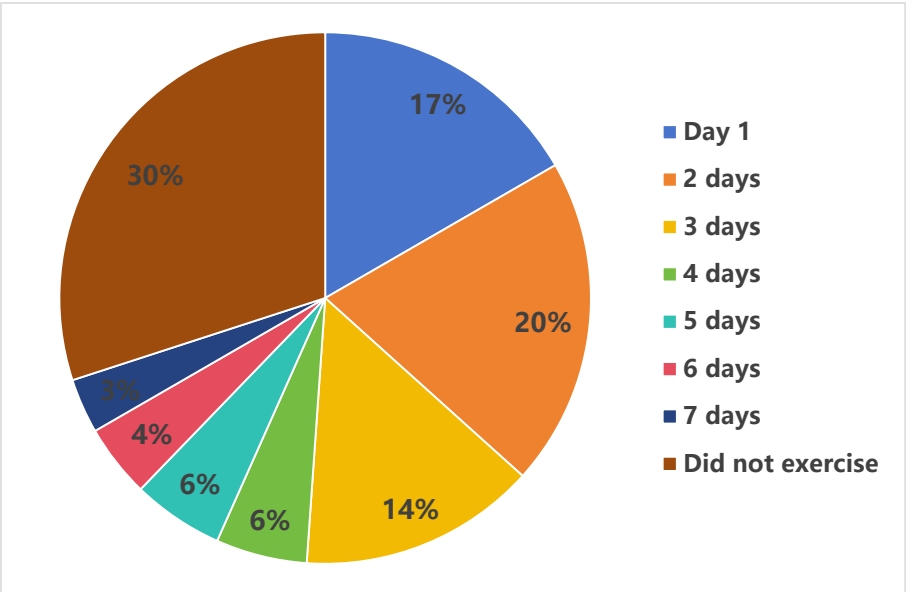

Fig 1: Moderate-intensity physical activity

However, about 70% of students engaged in high-intensity exercises, which require significant physical effort, three to seven days a week.

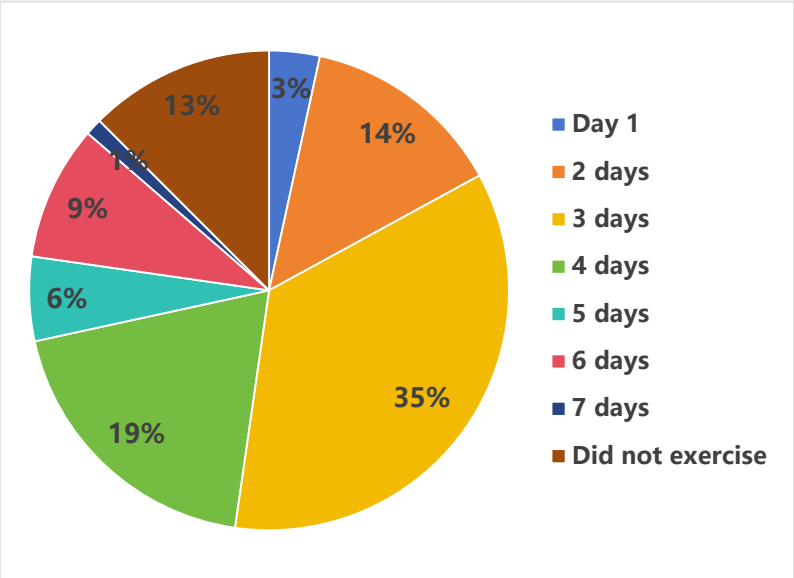

Fig 2: High-intensity physical activity

Additionally, about 72% of students engage in daily walking. Only 1% of students indicated that walking was absent from their weekly physical activity.

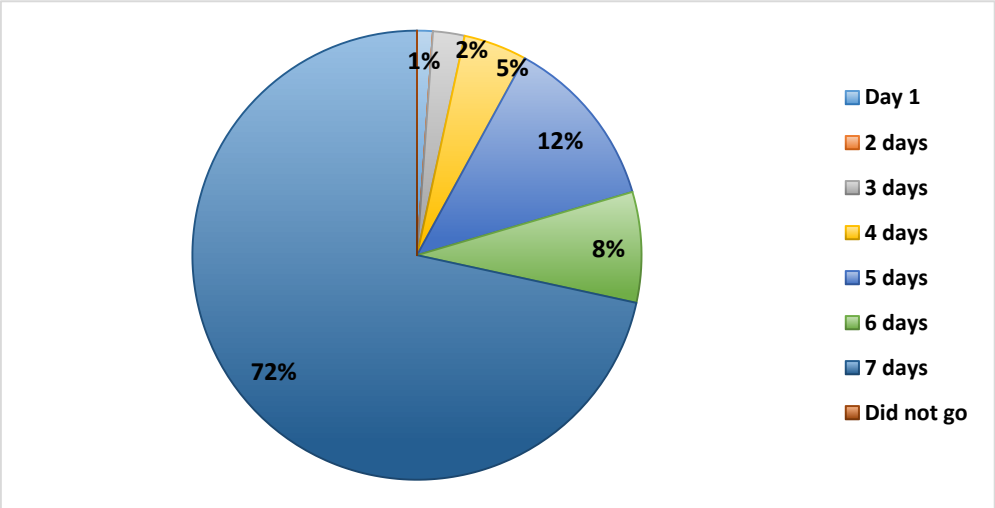

Fig 3: Walking

Discussion

The results of the study demonstrate the specific structure of weekly physical activity among first-year students majoring in "Therapy and Rehabilitation." The overall average energy expenditure of 7,467 MET-min/week (8,213.70 kcal/week) formally allows us to classify the students' overall level as high. However, a detailed analysis of the structure of this activity reveals a significant imbalance between its different types.

Walking (3,267 MET-min/week) and high-intensity physical activity (3,840 MET-min/week) were found to be the basis for the overall high level of energy expenditure. The high percentage of students who walk daily (about 72%) indicates high daily and logistical mobility among first-year students. At the same time, the fact that 70% of respondents engage in high-intensity physical activity 3 to 7 days a week indicates a strong motivation for intense exercise. This profile differs significantly from national trends, according to which only one in ten students in Ukraine has an adequate level of physical activity that meets WHO recommendations.

The most critical aspect turned out to be moderate-intensity physical activity. Only 3% of students engage in it daily, the vast majority devote no more than three days a week to it, and 30% of respondents completely ignore this type of activity.

The results obtained confirm and, at the same time, complement the findings of other researchers. On the one hand, long-term studies indicate a general decline in physical activity among college students due to the COVID-19 pandemic and the transition to remote learning under martial law. On the other hand, in our case, the high levels of total energy expenditure can be explained by the specific nature of the academic programs chosen by the students, as the choice of future profession directly influences lifestyle. Students majoring in "Therapy and Rehabilitation" demonstrate

greater engagement in certain types of physical activity as early as their first year, which is due to the nature of their future practical work, which requires physical endurance, an understanding of the biomechanics of movement, and the specific requirements of the university.

However, the identified deficit in moderate physical activity (30% are not engaged) indicates that first-year students' awareness of the importance of a balanced distribution of physical activity is still developing. Given the high intensity of their academic workload and the stressors of modern life, the rational organization of regular, varied physical activity should become an effective means of improving their psycho-emotional state and facilitating successful adaptation to higher education.

Conclusions

Based on the results of a survey using the International Physical Activity Questionnaire (IPAQ – short form), it was found that the overall weekly level of physical activity among first-year students majoring in "Therapy and Rehabilitation" (n=88) corresponds to a high level, with an average energy expenditure of 7,467 MET-min/week (8,213.70 kcal/week). Walking dominates the structure of the surveyed students' weekly physical activity (3,267 MET-min/week, with 72% walking daily) and high-intensity physical exercise (3,840 MET-min/week, engaged in 3–7 times a week by about 70% of students). A significant deficit in moderate-intensity physical activity was identified: only 3% of first-year students engage in it daily, while 30% of students completely exclude this type of activity from their weekly time allocation.

The obtained indicators of weekly physical activity among students majoring in "Therapy and Rehabilitation" positively differ from the trend observed among the vast majority of students in Ukraine. At the same time, the identified imbalance and lack of moderate-intensity exercise highlight the need to develop targeted recommendations for optimizing and rationally planning the structure of students' weekly physical activity to preserve their physical health and ensure successful professional fulfillment.

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