

LEVEL OF PHYSICAL ACTIVITY AMONG UNIVERSITY STUDENTS

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Abstract

Introduction: The contribution focuses on analyzing the level of health-related behavior and identifying risk factors for musculoskeletal health among university students with specific professional orientations in the context of physical activity. The research aimed to determine the level of physical activity (PA), sleep disturbances associated with pain, and motivation for exercise among university students. **Methods:** The study involved 192 physiotherapy students. The level of physical activity was assessed using the International Physical Activity Questionnaire (IPAQ). To determine the prevalence of pain among students, we used the Oswestry Disability Index (ODI), focusing on lumbar spine pain, supplemented with demographic questions. **Results:** In the IPAQ questionnaire, students achieved the following overall physical activity scores: 5 students (2.6%) exhibited low levels of overall physical activity; 30 students (15.62%) exhibited moderate PA, and 157 students (81.78%) were moderately active to highly active. The average time spent sitting among the surveyed students was 306.81 minutes/day. Higher values of high-intensity physical activity were exhibited by male students compared to females, and they also spent less time sitting. Research results demonstrated that the largest proportion of overall PA was achieved through activities related to clinical practice during studies (\approx 3071 METs/week). The average value of overall physical activity among students who reported no sleep disturbances due to pain (n: 148) was 7671.21 MET, while among students who reported occasional sleep disturbances due to pain (n: 44), the average value of overall physical activity was 6628.81 MET. Strong motivation for PA influenced by studying physiotherapy was reported by 29 (15.10%) students, moderate influence by 83 (43.23%). 33 (17.19%) students were engaged in PA before starting physiotherapy studies, and 9 students (4.69%) stated that their motivation for PA was not influenced by their studies at all. **Conclusion:** Students who regularly engage in sports activities tend to perform more diverse types of physical activity. Studies focused on movement and physical behavior reflect young people's attitudes toward physical activity. The expected benefit is gaining lifelong professional competencies among university students that will positively influence their health-related behaviors with the intention of preserving musculoskeletal health.

Keywords: Education, university students, lifestyle, motivation, physical activity.

1. Introduction

University students represent a special population with a diverse range of health issues that affect their lifestyle preferences as well as their ability to learn (Grasdalsmoen, Eriksen, Lønning, & Sivertsen, 2020; Freudenberg & Ruglis, 2007). Supporting the health of university students is one of the key imperatives of modern society. One cost-effective approach to preventing the onset of diseases in young individuals is engaging in physical activity (PA) (Dimitri, Joshi, & Jones, 2020; Gordon, McDowell, & Hallgren, 2018). Many studies have focused on the global decline in physical activity and the concurrent increase in sedentary behavior, obesity rates, learning difficulties in children, and the rise in mental health disorders (Anderson & Shivakumar, 2013; Lowry, Lee, & Fulton, 2013; Ghrouz, Noohu, & Dilshad, 2019). The prevalence of physical inactivity in the young population is alarmingly high, reaching levels of 80% (Sallis, Bull, & Guthold, 2016). Therefore, it is interesting that the development of cognitive functions in young people is associated with their level of physical activity behavior (Crone & Dahl, 2012; Fagaras, Radu, & Vanvu, 2015). Students in healthcare disciplines, whose studies are closely linked to the diagnosis and therapy of movement disorders, benefit from applying study methods to their personal lives. They are more flexible in intervening in elements of a healthy lifestyle, and in combination with their acquired medical knowledge, they have a higher motivation for self-realization.

Currently, there are no studies that have examined the impact of a student's study program on their level of physical activity.

University students constitute a group of young individuals transitioning into adulthood, a period associated with assuming responsibility for their behavior. The freedom inherent in student life, coupled with the academic demands it naturally entails, can be challenging for a certain subset of young individuals to manage, ultimately manifesting in feelings of anxiety, depression, sleep disorders, and impacting their academic performance (Watkins, Hunt, & Eisenberg, 2012). Several studies have confirmed a direct correlation between levels of physical activity and sleep quality among university students (Gubelmann, Heinzer, & Haba-Rubio, 2018; Arbinaga, Fernández-Cuenca, & Fernández-Ozcorta, 2019). In our study, we focused on the physical activity of physiotherapy students, their motivation for sports activities, and the impact of sleep quality on their level of physical activity.

2. Methods

We assessed the level of physical activity among a sample of 192 physiotherapy students using the International Physical Activity Questionnaire (IPAQ). Sleep quality was evaluated through the Oswestry Disability Index (ODI) questionnaire. Additionally, a self-constructed questionnaire was employed to inquire about the influence of the students' field of study on sports-related physical activity. Data analysis was conducted using descriptive and analytical statistics, including the Student's t-test.

3. Results

Analysis of the IPAQ questionnaire revealed that the largest proportion of total physical activity (PA) among students occurs during activities related to their studies and sports activities. On average, students spend 306 minutes per day sitting. Throughout the week, females engage in more physical activity at moderate and vigorous levels compared to males, but not at high levels of PA (see Table 1). Five (2.6%) students exhibited low levels of overall physical activity, 30 (15.62%) students demonstrated moderate levels of PA, and 157 (81.78%) students achieved high levels of PA.

Table 1. Overall evaluation of the IPAQ questionnaire (MET/week).

Category	n	average	SD	P ($\alpha \leq 0.05$)
School	192	3071.68	± 3282.79	
Transport	192	1113.59	± 1113.76	
Household. garden	192	1319.29	± 1783.04	
Sport	192	1925.54	± 1801.12	
MET total	192	7430.09	± 4795.82	
Sitting (min/day)	total	192	306.81	± 390.76
	boys	47	297.31	± 145.10
	girls	145	309.89	± 442.45
Light PA (MET)	total	192	2322.03	± 1878.28
	boys	47	2126.32	± 1558.17
	girls	145	2385.46	± 1971.62
Moderate PA (MET)	total	192	2144.06	± 1997.18
	boys	47	1968.96	± 1739.19
	girls	145	2200.82	± 2076.32
Vigorous PA (MET)	total	192	2966.24	± 3011.04
	boys	47	4320.86	± 3107.80
	girls	145	2527.16	± 2854.32

We examined how pain affects the quality of sleep among students (see Table 2). Out of the total sample, 77.8% of students (n:148) reported that their sleep is not disturbed by pain, while 22.92% of students (n:44) reported that their sleep is occasionally disturbed by pain. The average value of total physical activity among students who reported that their sleep is not affected by pain was 7671.21 MET/week. Students who reported that their sleep is occasionally disturbed by pain achieved an average of 6628.81 MET/week of total PA. Among individuals who reported that their sleep is not influenced by pain, we also found higher average values of physical activity at high (3123.50 MET) and moderate

(2431.14 MET) intensities. Individuals who reported that their sleep is occasionally disturbed by pain exhibited slightly higher average values of moderate-intensity physical activity (2236.52 MET) compared to their peers from the other group (2116.57 MET). The greatest differences between groups were observed in all statistical data regarding high-intensity physical activity.

Table 2. Physical activity according to sleep quality (MET/week).

	n (%)	Light PA	Moderate PA	Vigorous PA	Total
Sleep undisturbed by pain	148 (77.8%)	2431.14	2116.57	3123.50	7671.21
Sleep occasionally disturbed by pain	44 (22.92%)	1955.02	2236.52	2437.26	6628.81

We observed the approach to engaging in sports-related physical activity based on determining its level and quality (see Table 3).

Table 3. Level of physical activity.

	n (%)	Sitting (min/day)	Light PA (MET)	Moderate PA (MET)	Vigorous PA (MET)	Total (MET)
Regular professional level	7 (3.65%)	153.26	2944.07	2971.14	8635.71	14550.93
Regular non-professional level	89 (46.35%)	303.00	2303.83	2139.97	3295.15	7811.55
Irregular non-professional level	84 (43.75%)	328.31	2303.83	2162.38	2328.27	6794.49
Without physical activity	12 (6.25%)	336.22	1407.50	1035.00	600.42	3042.92

The majority of students engage in both regular and irregular sports activities. Among these two groups, there are minimal differences in the average values of physical activity. The most significant differences are observed in the average values of total physical activity and high-intensity physical activity.

We investigated the impact of studying physiotherapy on students' relationship with physical activity based on additional questions. From the results, it is evident that out of 192 surveyed students, 29 (15.10%) responded that their study of physiotherapy significantly influenced their relationship with physical activity and motivated them to engage in higher levels of PA. 83 (43.23%) students reported a moderate impact of studying physiotherapy on changing their PA. 38 (19.79%) students answered "slightly", 33 (17.19%) students responded that studying physiotherapy did not influence them and that they were already engaged in physical activity at the same level before, and 9 (4.69%) students stated that their motivation for PA was not influenced by their studies at all.

4. Discussion

The aim of this study was to analyze the impact of academic specialization on the level of physical activity among students. Choosing a healthcare discipline focused on treating movement disorders presupposes a positive relationship with a healthy lifestyle. Nearly 82% of students in our group exhibited a high level of physical activity, and more than 58% of students confirmed the influence of their study program on their attitude towards regular exercise. There are studies that confirm a positive relationship between academic achievement and level of physical activity (Rasberry, Lee, & Robin, 2011), but scientific publications lack studies specifically focusing on monitoring the direct impact of study programs on changes in physical behavior.

5. Conclusion

Education shapes young individuals not only professionally but also ideologically and physically. Regular engagement in sports activities at a young age is fundamental for building a healthy lifestyle. For further insights into this issue, studies based on the mutual comparison of physical behavior among students from multiple academic disciplines are necessary.

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