



Determinants of level of declared physical activity of belarusian students

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PhD, Associate Professor **J. Baj-Korpak**¹

PhD, Associate Professor **A. Shpakou**²

PhD, Associate Professor **F. Korpak**³

PhD, Associate Professor **A. Szepeluk**¹

¹Pope John Paul II State School of Higher Education in Biala Podlaska, Biala Podlaska, Poland

²Yanka Kupala State University of Grodno, Grodno, Belarus

³Jozef Pilsudski University of Physical Education in Warsaw, Department of Physical Education and Health in Biala Podlaska, Poland

Corresponding author: j.baj-korpak@dydaktyka.pswbp.pl

Abstract

Background. The current state of the knowledge of determinants of the level of physical activity is still insufficient. Predominance of diagnostic research over explanatory one and focusing only on relations between physical activity and unmodified demographical determinants are among the most important limitations characterizing most research conducted.

Objective of the research was to determine the level of declared physical activity undertaken by students of Belarusian universities and to learn about its determinants.

Methods and structure of the study. The survey covered 739 people studying at universities in Brest, Minsk and Grodno (Belarus). The age of the respondents ranged from 17 to 46 years. The mean age was 18.6 ± 3.3 years. In the studied group, women constituted a greater percentage (75.8% of all respondents). The research was carried out using the diagnostic survey method using the long version of the International Physical Activity Questionnaire - IPAQ, with its own modification. For the purposes of this study, questions about the self-assessment of the level of physical activity and the budget of free time were added to the IPAQ record.

Results and conclusions. It was found that nearly 60% of the surveyed youth show a high level of physical activity. The determinants included in the statistical analysis (gender, self-assessment of the level of physical fitness and the amount of free time) were statistically significant. Men turned out to be more active than women. A greater proportion of respondents with a BMI indicating overweight were more active than those with a normal BMI or those who were underweight. High self-esteem and declaration of not having free time by the surveyed youth are associated with a higher level of physical activity. The higher the physical fitness self-assessment, the higher the respondents' physical activity.

Keywords: students, physical activity, IPAQ, Belarus.

Introduction. It is difficult to clearly define its optimal level of physical activity (PA) - it is determined by many factors, including age, sex, physical fitness, health, life situation or the goal we want to achieve [4, 6].

According to the recommendations of the World Health Organization, we should strive to increase the level of physical activity of the population, treating it as one of the strategic health problems [7, 9]. Close connection between physical activity and health make it a desirable individual and social value, necessary in health promotion [5].

Objective of the study was to determine the level of declared physical activity undertaken by students of Belarusian universities and to learn about its determinants. The analysis took into account such variables

as gender, the value of the Body Mass Index (BMI) and the self-esteem of the level of physical activity, fitness, and the declared amount of free time.

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**Table 1.** Characteristics of the studied group

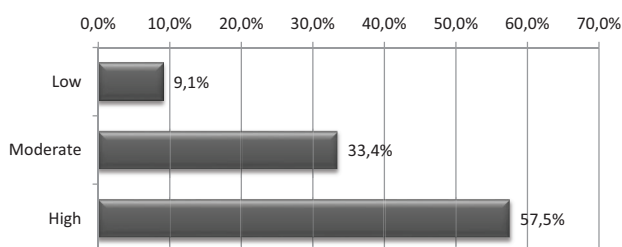
Determinant	Category	In total	
		No	%
Sex	Woman	560	75,8
	Man	179	24,2
Place of the re- search	Minsk	263	35,6
	Grodno	465	62,9
	Brest	11	1,5
Field of study	Humanities	581	78,6
	Medical	11	1,5
	Technical	58	7,8
	Sports	89	12,0
Self-esteem of the level of physical activity	Low	92	12,4
	Medium	553	74,8
	High	94	12,7
Declared amount of free time	Sufficient amount	342	46,3
	Insufficient amount	299	40,5
	Lack of free time	98	13,3

n – number, % – percentage

the IPAQ record. The detailed data characterizing the studied group are presented in tab. 1.

Due to the recorded minimum numbers of extreme categories of the Body Mass Index (BMI), three values were adopted: underweight, normal value and overweight. Of the total respondents, 72.7% had a BMI in the normal value, underweight was found in 19.0% of the respondents and overweight in 8.3% of the respondents.

The collected data were statistically analyzed in the Statistica 10.0 PL programme. The distribution of the analyzed data differed from the normal distribution (the distributions of the variables were analyzed with the Shapiro-Wilk test). The Mann-Whitney U test was used to investigate differences in the value of the MET-min / week index due to gender. Kruskal-Wallis test was used for more than two predictors. In all analyzed cases, the level of significance was $p < 0.05$.

**Figure 1.** The level of physical activity of the respondents

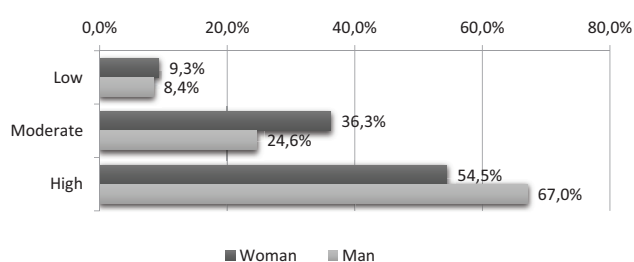
Results and discussion. The data presented in Fig. 1 shows that more than half of the respondents meet the IPAQ criteria [9] for the high level. Unfortunately, almost every tenth student is not physically active enough.

Taking into account sex, a statistically significant differentiation was found in the level of PA. A greater percentage of the studied men compared to women was highly active (Fig. 2).

The BMI value did not statistically differentiate the level of students' PA. Among the overweight respondents, nearly 64% met the criteria for the high level, and almost 28% of the respondents from this group had a moderate level. A similar percentage distribution was also observed among the respondents with BMI indicating the correct value. In the case of underweight students, the percentage of highly active students was slightly lower - it amounted to 47.5%. Respondents with a high self-assessment of the level of physical fitness presented a higher level of PA compared to people assessing themselves as moderately and poorly physically fit (Fig. 3).

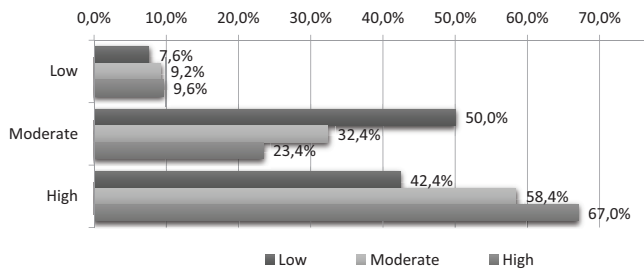
Over the recent years, the observed global trends in the level of physical activity [5] do not indicate its improvement. It should be noted, however, that women perform worse than men [3, 8]. According to WHO data, Belarusian men were 1.5 times more active than the surveyed women. The own research also showed a higher level of PA among male students than among female students. The results of surveys conducted among students in Russia and Kazakhstan [1] prove a low level of PA. In eastern countries, the percentage of people systematically undertaking physical activity amounted to only 11% [2].

Conclusions. The surveyed Belarusian youths show a satisfactory level of physical activity - a significant percentage (57.5% of all respondents) met the criteria for a high level of physical activity. The determinants included in the statistical analysis (gender,



The Mann-Whitney U test value: $Z=2,71$; $p=0,0067^*$

Figure 2. The level of the respondents' physical activity taking gender into account



The Kruskal-Wallis test value: $H=8,87$; $p=0,0118^*$; 1-3**

* - significant differentiation at $p<0,05$;

** - variables between which there is statistically significant differentiation in the post hoc Kruskal-Wallis test

Figure 3. *The level of physical activity of the respondents taking into account the self-assessment of the level of physical fitness*

self-assessment of the level of physical fitness and the amount of free time) were statistically significant. Men turned out to be more active than women. A greater proportion of respondents with a BMI indicating overweight were more active than those with a normal BMI or those who were underweight. High self-esteem and declaration of not having free time by the surveyed youth are associated with a higher level of PA. The higher the physical fitness self-assessment, the higher the respondents' physical activity.

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