COMPARATIVE ANALISIS OF STUDENTS' PHYSICAL ACTIVITY LEVELS

Liana Pļaviņa

National Defence Academy of Latvia, Latvia

ABSTRACT

The length of the active working life period increases. The interest in the ways of keeping the quality of life, the high working capacities and potentiality of individual creative abilities is high. Many of the habits of the healthy lifestyle and behaviours are developed during the late adolescence and early adulthood. The decline of the individuals' physical activity in that period have an input in the future life quality. The physical working capacities are based on the physical health, the physical development level, physical activity and the healthy lifestyle. The target of the paper is to evaluate the principle anthropometric characteristics and provide the analysis of the students' physical activity levels. Regular physical activity is protective against numerous chronic disease and gives an important contribution for the healthy lifestyle. The main benefits of physical activity are disease preventions, stress management, to have a fun cycling, the improved body beauty. Recent research suggests that a significant percentage of students did not get adequate physical activity. The information concerning eating habits, sports habits, life styles are very important. We have provided a questionnaire for the students from different higher schools concerning physical activities. Respondents were aged from 19 years to 33 years. The questionnaire includes the positions that allow us to collect information about sports and physical activity during the time of the working day and after it. The questionnaire embraced all the spectrums of the week's physical activities. The data of the questionnaire were evaluated according to the scale (in points) and calculated. Those data allow us to divide respondents into subgroups according to the levels of physical activity (low, moderate, and good, high). The determination of the degree of physical activity is essential for answering questions on health sciences for the identification of the target groups for health-related intervention.

INTRODUCTION

Nowadays the length of the active working life period increases. The interest in the ways of keeping the quality of life, the high working capacities and the potentiality of individual creative abilities is high[1, 2, 3, 4]. The physical working capacities are based on the physical health, the physical development level, physical activity and the healthy lifestyle. Physical activity is considered a fundamental link by the World Health Organization for the control of non-communicable diseases. Overweight is an established risk factor for cardio metabolic disorders. Therefore in the developed countries interest in the influence of physical activity as a preventive intervention has been promoted [8]. Individual self-perceptions are often associated with physical activity [5, 7]. The main benefits of physical activity are disease preventions (82%), stress management (54.5%), to have a fun cycling (44.5%), the improved body beauty 43.5% [8]. The decline of physical activity in young adulthood when many attend college or university is a disturbing trend [7, 8]. Recent research suggests that a significant percentage of college students do not get adequate physical activity The main reasons not to participate in physical activities were the lack of time (63%), the activities schedule (40%) the price (24%), and the distance (22.0%) in most of the students. The preferred activities identified by are collective sport with friends (64.4%) and cycling (63.4%), group outdoor activities (54,1%) [7].

The information concerning eating habits, sports habits, life styles are very useful. The target of the paper is to evaluate the principle anthropometric characteristics, the levels of students' physical activity. Physical activities assessment became more and more popular especially in outdoor physical activities. Many individuals attend the sport clubs, sport halls group exercises, swimming pools, but at the same time there are large groups of young people (students) who are physically inactive. The most frequent reasons for physical activities are healthy, life beauty; enhancing socializing between participants, a time spending way. Many of the habits of the healthy lifestyle and behaviours are developed during the late adolescence and early adulthood. The decline of the individual physical activities level in that period have an input for the future life period. Very acute is the problem of overweight.

MATERIAL AND METHODS

We have provided the assessment of the principal anthropometric characteristics (height and body mass) as well the anthropometric indices (the Body Mass Index and the height-weight coefficient) for the students from different higher schools (the National Defence Academy (NDA); the Riga Teacher Training and Education Management Academy (RTTEMA); the Latvian University Medical faculty (LU); the Riga Medical College; the Fitness program students). Respondents were female-students (n=88) in the age from 19 years to 33 years. We have provided a questionnaire for students concerning physical activity [6]. The questionnaire includes the positions that allow us to collect information about sports and physical activity during the time of the working day and after it. The questionnaire embraced all the fields of the week's physical activities. We have included the questions related to health problems – diseases (cardiovascular, respiratory, gastrointestinal) traum, ect. – and the duration of medical incapability (days per year). The data of the questionnaire were evaluated according to the scale (in points) and calculated. Those allow us to divide respondents into subgroups according to the levels of physical activity (low, moderate, and good, high). The respondents whose future speciality demanded a high level of physical activity and fitness (from the National Defence Academy; the Riga Teacher Training and Education Management Academy and the Fitness program) were included in the 1st group. The respondents whose future speciality does not require a high physical fitness level from the Latvian University Medical Faculty; the Riga Medical College) were included in the 2nd group.

RESULTS AND DISCUSSION

We have determined the main anthropometric characteristics in the groups of respondents. The height parameters in some respondents' groups did not reveale any difference. So the students from the NDA had the average data of height 170.1±2.5cm, the average data of height for the students from RTTEMA was 170.7±1.0 cm. The average data of height in the Fitness program students' group was 170.1±0.9cm. but the average height parameters in the students group from the University was 167.1±1.8cm. The average data of the height of the students from the Medical college was 166.9±1.2 cm (Figure 1).
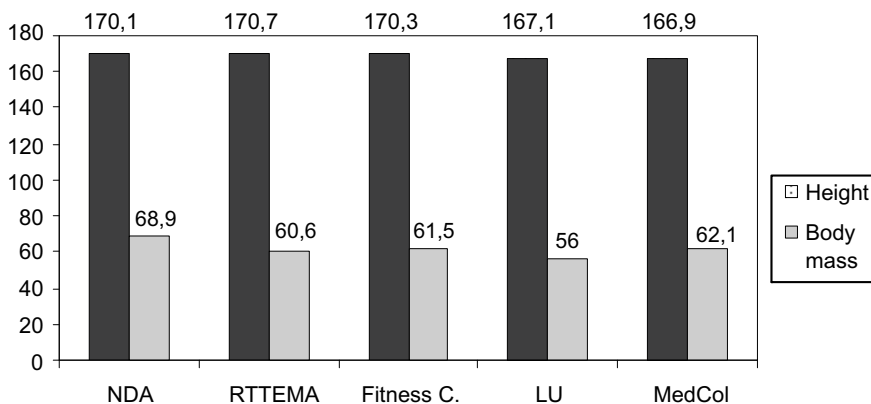
Figure 1. Distribution of respondents according to the height and the body mass characteristics.

The body mass characteristics were different in the examined students' groups. The highest level of the body mass we have determined for the students from the NDA 68.9 ±3.78 kg with the variation between 57 kg and 92 kg, the lowest level of the body mass we have found for the students of the Medical faculty from Latvian University 56.0± 2.2 kg (Figure 1).

Respondents from different high schools were divided into two groups. The first group (1st group) included the students whose future speciality demanded a high level of physical activity and fitness (students from the National Defence Academy; the Riga Teacher Training and Education Management Academy, the Fitness program students). The second group (2nd group) included the students who have not any obligation to keep to a high level of physical activity (medical specialty), whose future speciality does not require a high physical fitness level. There were students from the Latvian University Medical faculty and the Riga Medical College. We have evaluated the anthropometric indices' levels (the Body mass index (BMI) and the weight-height index) in the respondents groups. We did not reveal the overweight problem in the respondents' groups, we have determined the tendency to overweight. The numbers of students with the tendency to overweight were equal in the 1st group (13.1%) and the 2nd group (12.5%). We have noticed the number of individuals with a low level of the BMI in the 1st group – about 4.3% and in the 2nd group 10%. (Figure 2)
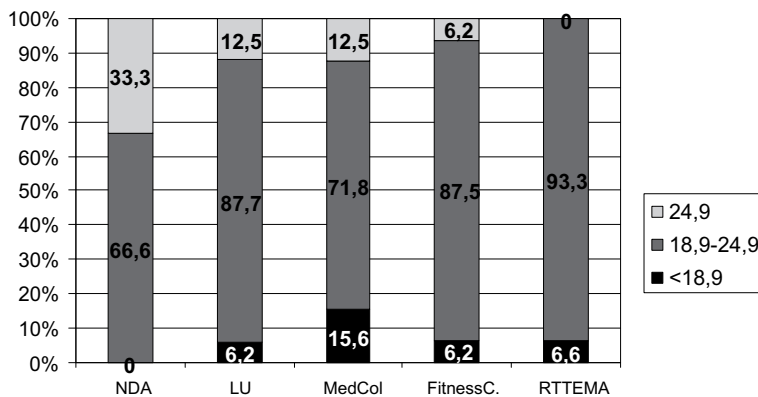
Figure 2. Distribution of respondents' Body mass index (%)

The weight – height index value indicated the body constitution type. The respondents with a weight – height index value under the standard value had the asthenic body constitution type. The were about half of the respondents in the Fitness students program (50%) and in the students' group from Latvian University (43.7%) with the asthenic body constitution type. I/3 of the respondents from the Riga Medical College and only 1/10 of respondents from the NDA had the asthenic constitution type. The normasthenic constitution type is characterized by the standard value of the weight-height index. The 5/6 of respondents from the RTTEMA (86.3%), the 1/3 of respondents from Latvian University (37.5%) and the Riga Medical College (28.1%), and 1/10 of the respondents from NDA (11.1%) had the normasthenic constitution type. The hypersthenic body constitution type is characterized with the weight-height index that is over the standard value. There were ¾ of respondents from the NDA (77.7%) with the hypersthenic constitution type. There were about ¼ respondents in Latvian University (25%) and the student of the Fitness program (25%) with the hypersthenic constitution type and 40.6% of the students from the Medical College had the hypersthenic constitution type (Figure 3).
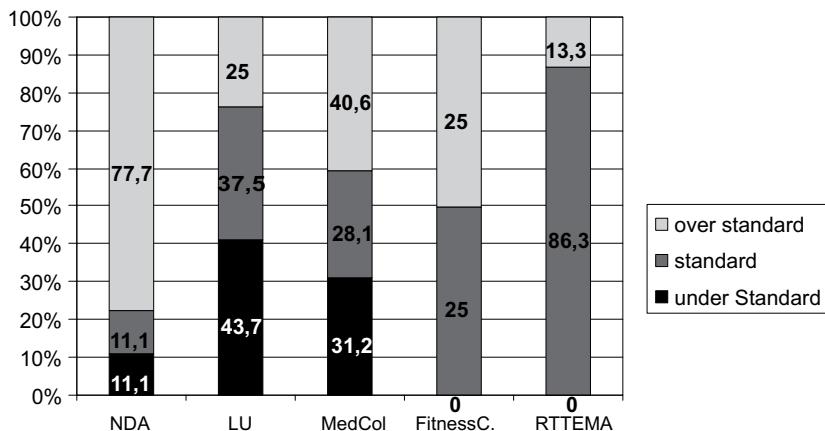
Figure 3. Distribution of respondents according to the weight-height index levels (%).

According to the questionnaire's results the average physical activity level in the 1st group (58.6 points) – is about 70% higher than the results of the physical activity level in the 2nd respondents group (34.4 points). Different levels of the physical activities depended on administrative, organizing, economic and financial reasons. The comparative analysis of physical activity in the different students' groups revealed that the highest level of physical activity was in the students' group from the National Defence Academy – 72.3±4.8 points. The level of physical activity in the students' group from the RTTEMA (47.1±5.6 points) and the Fitness program students (56.1 ±3.2 points) were lower. The level of physical activity for the students from Latvian University Medical faculty was 38.1±3.9, and the level of physical activity in the students' group from the Medical College was 30.9 ±3.9points (Figure 4).
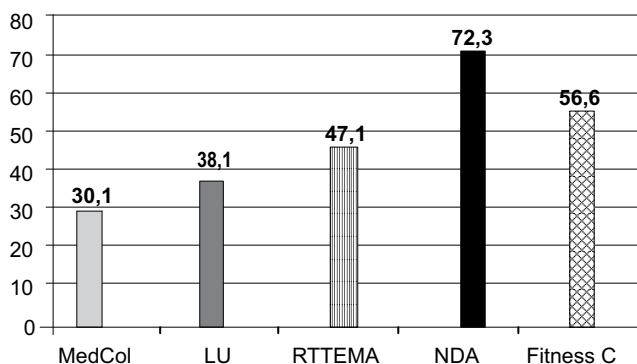

Figure 4. Distribution of respondents according to the physical activity level (%)

The data of the questionnaire were evaluated according to the scale (in points) and calculated. Those allow us to divide respondents into subgroups according the levels of physical activity (low, moderate, and good, high). The analysis of the physical activity level in different students' groups allow us to determine that the high level of physical activity was fixed for 44.4% of respondents from the NDA, for the 25% of students of the Fitness program and for the 20% students from the RTTEMA The low physical activity levels were revealed for 37.5% students from the Latvian University Medical Faculty and 43.7% of students from the Riga Medical college. There were no students with the low level of physical activity in the students' groups from the NDA. Half of the students from the RTTEMA (53.3%) and Latvian University (43.7%) had the moderate physical activity level. There are about 31.2% of the respondents from the Medical College and the Fitness program students group with the moderate physical activity level. The good level of physical activity was found for 44.4% of students from the NDA and 43.7% students of the Fitness program group. There were about 18.7% of the respondents with the good physical activity level in the students' group from Latvian University and 21.9% of the respondents from the Medical College (Figure 5).
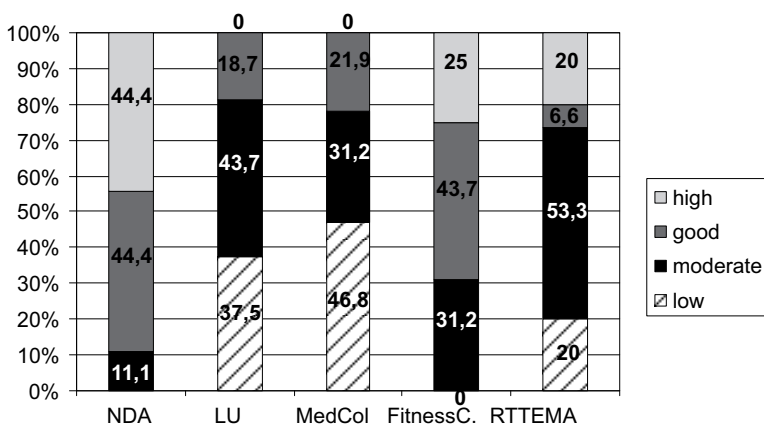

Figure 5. Distribution of Physical activity levels in different students' groups.

CONCLUSION

1. The average value of the height parameters for the students-female from different higher schools was 169.02±0.73cm. The individual variations of the height were in the interval between 154 cm and 185.5 cm. The

respondents of the 1st group (where the demands of physical fitness were high) had higher height parameters than the respondents from the 2nd group (whose future speciality did not need high physical preparedness).

2. The average value of the body mass in the examined group was 61.82±1.09 kg The problem of overweight exists in the students' population. There were 13.1% of the students of the 1st group (where the demands of physical fitness were high) and 12.5% of the students in the 2nd group (whose future speciality did not need high physical preparedness).

3. The average value BMI in the 1st and the 2nd groups corresponded to the standard.

4. According to the questionnaire's results the good Physical activity level (58.6 points) is about 70% higher than the results of the physical activity level in the 2nd respondents group (34.4 points) that corresponded to the moderate physical activity level. The low physical activity levels were revealed for 37.5% of the students from the Latvian University Medical Faculty and 43.7% of students from the Riga Medical College.

REFERENCES

1. Bras R., Rodrigues R. G., Pinheiro P., Esteves D., O'Hara K.(2011). Dimensions of physical activity expectations: Implications for designing and marketing exercise. In: Book of Abstracts of 16th Annual Congress of the European College of Sports Science. 6–9 July, 2011, Liverpool, UK, 148.

2. Bula I., Jansone R., Grants J. (2010). Habits of physical activities in Families (Empirical investigation). Scientific Journal of RTU, 17, 114–118.

3. Fairclough S. J., Ridgers N. D. (2010). Relationship between maturity status, physical activity and physical self-perception in primary school children. J. of Sports Sciences, 28, 1, 1–9.

4. Moreno Gomez C., Tauler P., Aguilo A. (2011). Factors affecting practice of Physical, Activity Among University Students// Book of Abstracts of 16th Annual Congress of the European College of Sports Science. 6–9 July, 2011, Liverpool, UK, 152.

5. Porozovs J. (2010). Evaluation of Physical activity, lifestyle and health condition of students. In: 5th International Scientific Conference RTTEMA Scientific Articles and Conference Proceedings. Theory for Practice in the Education of Temporary Society. Riga, Latvia, 253–259.

6. Виленский М. Я., Ильинский В. И. (1987). Физическая культура работников умственного труда. Москва. Знание.

7. Ruiz Tendero G. (2011). Is University a good environment for physical activity. In: Book of Abstracts of 16th Annual Congress of the European College of Sports Science. 6–9 July, 2011, Liverpool, UK p149.

8. Veira S., Esteves D., Bras R., Pinheiro P. (2011). Physical activity levels, preference and impairments among Portuguese college students. In: Book of Abstracts of 16th Annual Congress of the European College of Sports Science. 6–9 July, 2011, Liverpool, UK, 247–248.

Address for correspondence:

Liana Pļaviņa

National Defence Academy of Latvia

LV-1014, Ezermalas str. 8, Riga, Latvia

Tel. +371 29208611