

PHYSICAL ACTIVITY IN ADOLESCENCE

Magda TALIÁNOVÁ

***Abstract:** Even though physical activity has a positive effect on health state, its share in the life of young people has been decreasing. The purpose of my contribution is to point out the values of the Body Mass Index (BMI) in adolescents and what their approach to physical activity is.*

***Keywords:** physical activity, health state, Body Mass Index (BMI), hypo-mobility, adolescence*

Theoretical Background

Physical activity performs an important role in the life of every human, helping to keep human organism in a good health state and physical and mental fitness. Regular physical activity increases physical fitness of the individual, helps reduce body weight and blood pressure, improves lipid profile and saccharide metabolism, reduces the risk of thrombi formation etc.

In the period of adolescence everyday physical activity of the young person drops, for he or she spends a lot of time at school and at home learning and preparing for the following day at school. Most young people then spend their leisure time watching TV, working and playing on their computer and thus they find little time for sporting activities. This condition is considered beginning of the stage called hypo-mobility. In this period it is important to motivate the adolescents to recreational sport. For this purpose it is possible to build on their interest in new attractive sports such as spinning, aerobic, art of combat, yoga, baseball, floor-ball, etc. Physical activity increases energy spending, develops endurance, agility, flexibility, attenuates aggressiveness and may teach application of self-discipline, especially in collective games. If the physical activity is sufficiently invasive and takes a sufficient period of time then, according to Rippe, it may lead to relatively long subsequent increase of the ease metabolism, to the so called Q-effect. The recommended endurance physical activities in the young age include walking, cycling, swimming, running, collective ball games, tourism, skiing, water sports etc. In the case of overweight adolescents, however, it is necessary to consider adequacy and specific effects of the individual sporting activities to prevent worsening of the physical condition of the individual.

Purpose of Research

The purpose of the research was to assess the standards of physical activity of the adolescent population between 15 and 20 years of age. The standards of physical activity have been assessed by a comparison of two groups of young people on the basis of their BMI (body mass index).

Methodology of Research

In the research part of my thesis I attempted at a probe into the area of physical activity. I used the questionnaire method for data acquisition for my thesis complemented with anthropometric body weight, body height and fat mass measurement. I measures 1,020 respondents in total and subsequently had them fill out the questionnaires focused on physical activity. All questionnaires were returned duly filled out. The obtained data have been processed in diagrams of relative values (in %) of the studied phenomena for both study groups. Statistical significance was verified with the help of the good compliance test chi-quadrat.

Research sample characteristics – The research was performed in 1,020 respondents of the age group 15–20 from the Pardubice and the Hradec Králové regions (secondary school students) and from the whole Czech Republic (university students). The subjects included 835 boys and 185 girls. After handing out the questionnaires I briefed the respondents about the purpose of my research and gave them basic instructions about how to fill out the questionnaire. The respondents were given 25 minutes for filling out the questionnaire.

Interpretation of Results

Table 1 Respondent BMI values

	15 years		16 years		17 years		18 years		19 years		20 years	
	absolute	relative	absolute	relative	absolute	relative	absolute	relative	absolute	relative	absolute	relative
	frequency	freq. in %	frequency	freq. in %	frequency	freq. in %	frequency	freq. in %	frequency	freq. in %	frequency	freq. in %
Below 18.5 underweight	16	1.5	16	1.5	9	0.8	9	0.8	10	0.9	5	0.5
18.5-24.9 standard	113	11	113	11	109	10.6	108	10.5	116	11.3	127	12.4
25-29.9 overweight	39	3.8	41	4	48	4.7	51	5	42	4.1	34	3.3
30-34.9 obesity I	2	0.2	0	0	3	0.3	2	0.2	2	0.2	2	0.2
35-39.9 obesity II	0	0	0	0	1	0.1	0	0	0	0	1	0.1
Above 40 obesity III	0	0	0	0	0	0	0	0	0	0	1	0.1

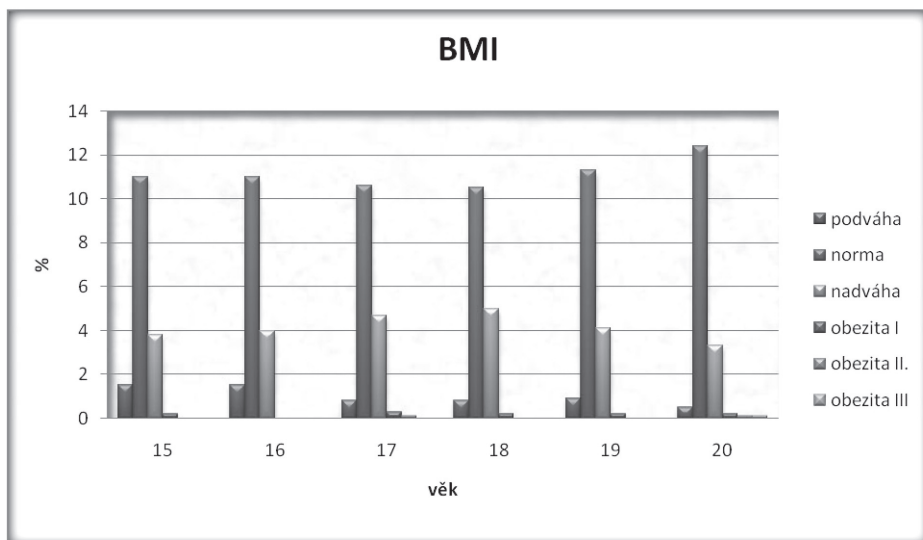


Figure 1 Diagram of BMI values by age

The highest share in the underweight group was represented by the age group of the 15-year-olds (1.5 % of all measurements) and the age group of the 16-year-olds (1.5 % of all measurements). The highest share in the standard weight group was represented by the 20-year-olds (12.4 % of all measurements). The highest share in the overweight category with the percentage of 4.7 % of all measurements was represented by the 17-year-olds. The highest share in the obesity I category (0.3 % of all measurements) was represented by the 17-year-olds, while the highest share in the obesity II category was represented by the 17-year-olds (0.1% of all measurements) and the 20-year-olds (0.1 % of all measurements) and the only share in the obesity III category was represented by the 20-year-olds (0.1 of all measurements).

A positive approach to physical activity was mentioned by 88.1 % of the adolescents with BMI above 90.0 percentiles and 83.1 % of the adolescents with BMI below 90.0 percentile. Even though a positive attitude to physical activity seems to exist in over 80 % of the adolescents, the question is why the nearly 20 % expressed a negative attitude to physical activity. Do the reasons mainly include their health state or rather insufficient motivation or even laziness?

The question about participation in school physical training lessons was answered in positive by 94 % of the adolescents of the BMI above 90.0 percentiles category and 72.9 % of the adolescents of the BMI below 90.0 percentile category. These data also corresponded to the information obtained from the school where the research was conducted.

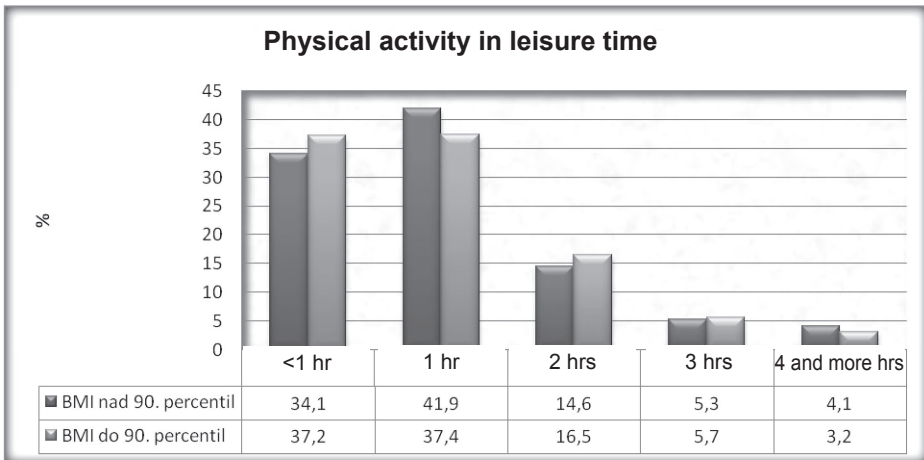


Figure 2 Diagram of physical activity in leisure time

A sport club is attended by 46.4 % of the adolescents with BMI above 90.0 percentiles and 35.8 % of the adolescents with BMI below 90.0 percentiles. The most frequently attended sports clubs in the group of boys included ice hockey, football, basketball and volleyball. In the girls group they were aerobic, stretching, spinning and volleyball. In addition to the classical sports this group also included chess, shooting and fencing. Diagram 3 shows intensity of physical activity in the individual age groups per 24 hours. Most physical activity in all intensity levels was shown by the group of the 17-year-olds. On the other hand, the lowest physical activity was reported by the 15-year-olds and the 20-year-olds.

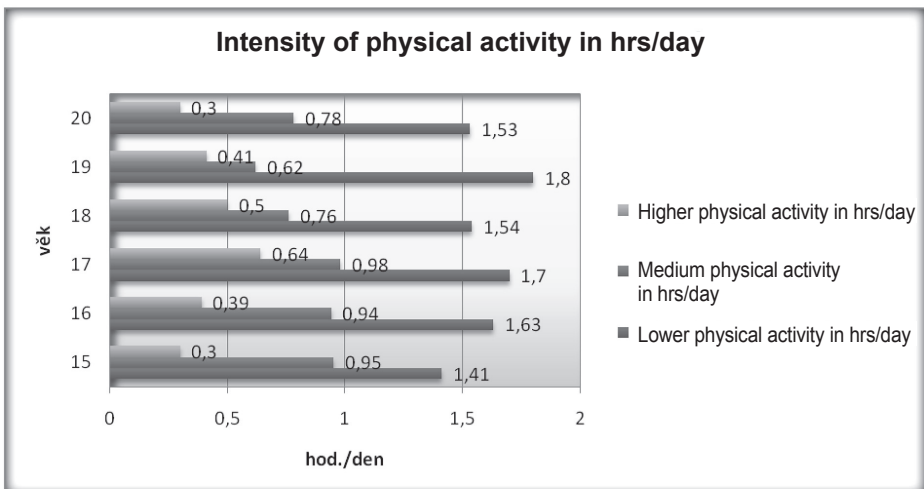
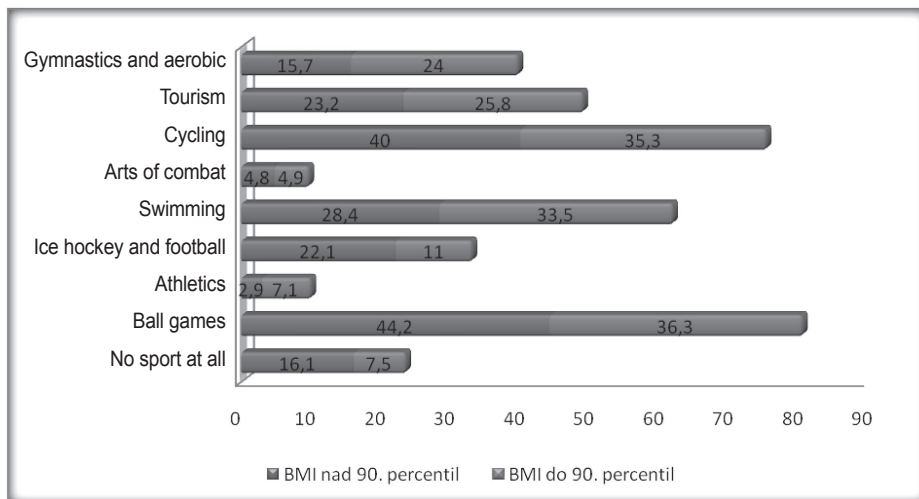


Figure 3 Diagram Intensity of physical activity in hrs/day

Diagram 4 shows the most frequent physical activities of the inquired adolescents. The respondents could choose more than one sport. Respondents of both groups most frequently mentioned ball games and cycling. The least practised sports in the adolescent group with BMI above 90.0 percentiles included athletics and arts of combat in the adolescent group with BMI below 90.0 percentile.



Discussion and Conclusion

The results of the research show that the number of overweight individuals in the age group of 15 to 20-year olds has been increasing. One of the main reasons of the increased body weight in the developed industrial countries is the reverse ratio between food intake and physical activity. Although the results show a positive attitude to physical activity in more than 80% of the respondents in both BMI-based study groups, the share of physical activity in the lives of the young people and its intensity keep decreasing. In the adolescent group with BMI below 90.0 percentiles nearly 27 % of the respondents reported exemption from physical training lessons at school on the basis of a medical recommendation. The question is whether so many adolescents really suffer from health problems big enough to prevent them from at least partial engagement in school physical training. Around 40 % of the adolescents of both groups reported maximum 1 hour a day spent by physical activity and another about 38 % of young people of both groups exercised or performed sporting activity for the mere 30 minutes a day, which in the adolescent age falls below the bottom limit of recommended physical activity. The results also show that the preferred sports of the present period include cycling, tourism, ice hockey, football, or floor-ball. The truth is, unfortunately, that some sports are too financially demanding for the parents of the children and that is why the parents do not let their children attend the sports clubs. Our towns and villages lack sufficient numbers of sports grounds where the children could practise sports. If we want this trend to improve the adolescents and their families need to be motivated by means

of a proper education. It is important to know what the family can do for its adolescent's sporting and what the role of the school is in this area. The family is expected to allocate time for both sedentary activities and physical exercise of their children, to positively motivate their children to sporting, to select a suitable sport for each child, to get involved in sporting activities together with the children, to avoid inadequate demand on the sporting activities and to support natural physical activity of their children. The schools are expected to include in the physical training lessons the new sports attractive for the young generation, not to criticize or ridicule young people without talent for sports but on the other hand to encourage and motivate even these young people for sporting activities, to help adolescents find sports in which they could excel and not to give bad marks for physical activity results.

POHYBOVÁ AKTIVITA V ADOLESCENCI

Abstrakt: Ačkoliv má pohybová aktivita pozitivní vliv na zdravotní stav, tak se její podíl v životě adolescentů neustále snižuje. Cílem mého příspěvku je upozornit na to, jaký je Body mass index u sledovaných adolescentů a jakým způsobem přistupují k pohybové aktivitě.

Klíčová slova: pohybová aktivita, zdraví, Body mass index, hypomobilita, adolescence