Study on the physical condition in girls within the context of the current society

VAIDA MARIUS

Petroleum - Gas University of Ploiești, ROMANIA

Published online: November 30, 2019

(Accepted for publication: November 15, 2019)

DOI:10.7752/jpes.2019.s6354

Abstract

Purpose: This research wants to highlight the category of physical condition that young girls fall into today, how often they exercise and how intense that can be categorized.

Material and methods: The study in question was conducted on 50 students for the period of three years (2016 - 2018) at the Petroleum - Gas University of Ploiești, based on two studies previously conducted in 2011 (Vaida M. et al, 2011, p. 993) and 2014 (Vaida M., 2014 p. 648). This study was carried out with the Physical Activity Index as a starting point. This index consists of three parameters (frequency, duration and intensity) the first parameter having 5 items, the second 4 items and the third 5 items.

Results: It can be observed that the girls are relatively sedentary or insufficiently active, the data showing a large spread of values, there being no homogeneity at the group level.

Conclusions: The data presented in this study shows that girls are insufficiently active. I must mention that sport should be part of the daily life, more or less depending on the daily schedule of each individual, having great benefits, both from the perspective of the stress reduction and as well as physiological (through the many benefits it has for the body). Movement (sport) combined with an adequate lifestyle and with proper nutrition aims to increase the life expectancy of the individual because their body tonus becomes superior, the efficiency at the workplace increases, they are more optimistic, they can perform certain activities with a yield increased over a longer period of time etc.

Keywords: study, girls, physical activity

Introduction

This research wants to highlight the category of physical condition that young girls fall into today, how often they exercise and how intense it feels like. The elements that make up the motility of the individual are represented by the motor acts, the motor actions and the motor activities.

Cârstea Gh. (2000, p. 29) emphasized that motor activities "are assemblies of motor actions that are part of a coherent system of ideas, rules and forms of organization in order to obtain a complex adaptation effect of the human body and also an improvement of its dynamics, in accordance with well-defined objectives. The fundamental motor activities in the field are: physical education, sports training, competition-sport activity, recuperative motor activity and other free-time motor activities".

Physical activities can be divided into several levels, namely: light physical activities (easy walking, fishing, writing, billiards, etc.), moderate physical activities (cycling on flat terrain, table tennis, boating, alert walking, swimming - recreational form, dance etc) and intense / vigorous physical activities (football, basketball, handball, jogging, skiing, hiking, roller skating or ice skating, bodybuilding - in case of using heavy weights, jumping rope, etc.).

Also, Manno R. (1992/1996 p. 9) mentioned that "historically, human motility is one of the main conditions of social development. Under its different aspects (strength, endurance, speed, coordination), it is the one that allowed man to survive ". The same author points out that in modern society (Manno R., 1992/1996 p. 9) "motor activity not only retains considerable importance in the development and formation of the personality, but also constitutes the direct, almost exclusive, stimulus of one of the the fundamental biological properties of living beings, of humans in particular: general motricity".

It is known that sport has a positive effect on health, and also can be said that it has not only prophylactic effects but also functional effects.

Dumitru Gh. (1997, p.18) mentioned that "a complete initial examination is not necessary just to know if you are allowed or not to make an effort - in other words, if you are prone to a cardiovascular accident to be triggered by effort. Such a specialized consultation should have other objectives, so that at the end of it both the examiner and you (especially) have a complete and concrete picture of the level of risk factors, the capacity of effort, the food measures on who should have them etc". The mentioned author emphasizes that the initial data is also necessary to monitor the evolution of the individual, changing the various effort parameters, depending on the respective situation.

At the same time, the psychological factor of physical activity must be highlighted by its beneficial effects on the individual (well-being, relaxation, self-confidence, etc).

Material and methods

The research presented was based on a number of 50 students during a three years period (2016 - 2018) and was held at the Petroleum - Gas University of Ploiești, based on two studies previously conducted, in 2011 (Vaida M. et al, 2011, p. 993) and 2014 (Vaida M., 2014 p. 648). The data obtained on the three years surveyed was compared with the two years previously researched to see the evolution of physical condition and lifestyle in girls. This study was carried out with the Physical Activity Index as a starting point. This index consists of three parameters (frequency, duration and intensity), the first parameter having 5 items, the second 4 items and the third 5 items, the index in question was presented below as both a questionnaire used and as an assessment grid according to the values obtained. The statistical-mathematical indicators that helped me carry out this research were the following: first quartile and third quartile, amplitude, median, lower limit, upper limit, coefficient of variability and standard deviation, arithmetic mean. The Physical Activity index is calculated and interpreted according to the formula presented by Dumitru, Gh. (1997, pg.59): "P.A.I. = Intensity x Duration x Frequency". The questionnaire underlying the Physical Activity Index was submitted by Dumitru Gh. (1997, p. 59) as follows: The *intensity parameter* has the following score "Score 5- Physical activity leads to pronounced acceleration of breathing (gasping) and relatively abundant sweating, Score 4- Effort that leads only from time to time (intermittent) to gasping and sweating – field tennis etc, Score 3- Effort not too hard - cycling, Score 2- Moderate effort – e.g. volleyball etc and Score 1- Light effort –walking, fishing etc". *Duration parameter* is next score: "Score 4- Over 30 de minutes, Score 3-between 20 and 30 minutes, Score 2- between 10 and 20 minutes and Score 1- Under 10 minutes". In addition, I present the *frequency parameter* score as follows: "Score 5- Daily or almost daily, Score 4-3 to 5 times a week, Score 3-1 to 2 times a week, Score 2- Several times per month and Score 1- Once or less per month".

Dumitru Gh. (1997, p. 60) points out that the P.A.I value is assessed as follows: "Score 80 – 100, characterization is of very active lifestyle and the category of physical condition is superior; Score 60 – 80, characterization is - active and healthy person and the category of physical condition is very good; Score 40 – 60, characterization is - acceptable and the category of physical condition is reasonable; Score 20 – 40, characterization is - insufficiently active / relatively sedentary and the category of physical condition is weak; Score below 20, characterization is - sedentary and the category of physical condition is very weak".

Results

Table 1. Evolution of the intensity parameter during the five years studied- girls

	Statistical indicators/year	2011	2014	2016	2017	2018
Intensity	Arithmetic mean	2,95	3,33	2,90	3	3,15
	Lower limit	1	1	1	2	1
	First quartile	2	3	2	2	3
	Median	3	3	3	3	3
	Third quartile	3	4	3	3	4
	Upper limit	5	5	5	5	5
	Amplitude	4	4	4	3	4
	Variability coefficient	36,28	30,49	32,48	27,88	30,66
	Standard deviation	1,07	1,01	0,94	0,84	0,96

Table 2. Evolution of the duration parameter during the five years studied - girls

	Statistical indicators/year	2011	2014	2016	2017	2018
Duration	Arithmetic mean	2,85	3	3,19	3,04	3,13
	Lower limit	1	1	1	2	1
	First quartile	2	2	2	3	3
	Median	3	3	4	3	3
	Third quartile	3	4	4	3	4
	Upper limit	4	4	4	4	4
	Amplitude	3	3	3	2	3
	Variability coefficient	27,74	29,81	30,74	21,95	25,22
	Standard deviation	0,79	0,89	0,98	0,66	0,79

Graphic 1. Evolution of the intensity and duration parameter

Table 3. Evolution of the frequent parameter during the five years studied - girls

Statistical indicators/year	2011	2014	2016	2017	2018
Arithmetic mean	2,76	3,14	2,61	3,14	3,09
Lower limit	1	1	1	1	1
First quartile	2	3	2	3	3
Median	3	3	3	3	3
Third quartile	3	4	3	4	3
Upper limit	5	5	5	4	5
Amplitude	4	4	4	3	4
Variability coefficient	32,19	28,96	36	27,15	24,82
Standard deviation	0,88	0,91	0,93	0,85	0,76

Table 4. Evolution of the P.A.I. parameter during the five years studied - girls

Statistical indicators/year	2011	2014	2016	2017	2018
Arithmetic mean	23,95	32,42	24,71	28,7	31,61
Lower limit	6	6	4	9	6
First quartile	12	18	12	24	18
Median	18	27	24	27	27
Third quartile	36	45	36	36	45
Upper limit	48	80	60	60	64
Amplitude	42	74	56	51	58
Variability coefficient	60,10	58,25	61,97	45,30	51,10
Standard deviation	14,39	18,89	15,31	13,03	16,16

Graphic 2. Evolution of the frequency and P.A.I. parameter

Discussion

For girls, the intensity parameter is represented by values of the arithmetic mean between 2.90 and 3.33 as follows: 2011 -2.95, 2014 - 3.33, 2016 -2.90, 2017-3, 2018-3.15, an increase in 2014 with a decrease in 2016, also the years 2017 and 2018 are characterized by a continuous increase. The highest value was recorded in 2014. The values presented shows that girls prefer an intensity for which the effort is not too difficult, but there are also values that lower the effort towards the moderate effort. During all these years it is observed that the data sharing is small, the difference between the minimum and the maximum averages is 0.43 points.

Instead, the duration parameter shows a relatively different evolution of the arithmetic average, with values starting from 2,85 in 2011 and reaching 3,19 in 2016. An average trend can also be observed between 2011 and 2016, compared to 2017 where the average value is lower (3,04). The year 2018 is particular by a slight increase to 3,13, close to the maximum value acquired in 2016. Through the data obtained we can see that the vast majority of the girl group prefers a duration of movement of 20-30 minutes. The grouping of the values is represented by a small scattering of the data but with a low homogeneity of the group. For girls, under this parameter, between the maximum and the minimum arithmetic average values over the five years studied and presented is an evolution of 0,34 points.

The parameter of "frequency" is characterized by the arithmetic average value of 2,76 in 2011, followed by an identical value of it in 2014 and 2017 (3.14), year 2016 having the smallest arithmetic mean recorded of 2.61. The average trend in 2018 is given by the value of 3,09, which is ranked as the second value for this parameter. In the evaluation, it is observed that the degree of spread of values is low and the homogeneity of the groups is low. The difference between the extreme values of the arithmetic average over the five years studied is 0,53 points.

For girls, the index of P.A.I., which is the purpose of the proposed test and by which we can estimate the physical condition of young people today, has a score of the average which is between 23,95 (2011) and 32,42 (2014), with the other scores continuously rising after 2016 as presented: 24.71 in 2016, 28.71 in 2017 and of 31.61 in 2018. It is observed that the girls are relatively sedentary or insufficiently active, data showing a great spread of values with no homogeneity at the group level. The difference between the extreme values of the average scores on the P.A.I. parameter is 8,47 points.

Conclusions

By studying the ones presented above, the following conclusions can be drawn:

The data presented shows that girls are insufficiently active/relatively sedentary, with an increase of the P.A.I. in 2014 and 2018, but still insufficient to cross the 40-point threshold where the physical condition is reasonable. I must mention that movement/sport should be part of a daily life, more or less depending on the daily schedule of each individual, having great benefits from the perspective of the stress reduction and also physiologically through the many benefits it has in the body.

Movement (sport) combined with an adequate lifestyle and with proper nutrition aims to increase the life expectancy of the individual, tonicity becomes superior, the efficiency at the workplace increases and also the individuals become more optimistic, they can perform certain activities with a yield increased over a longer period of time. One of the factors that negatively influence the health of the population is sedentarism, taking measures being necessary both on a society level (through various programs based on physical activity, etc) but especially on the level of the individual through his awareness of the benefits of sport over his health.

It can be said that the three main factors that maintain or improve the status of individuals are: regular movement, rest needed and proper nutrition. Physical education as a whole plays a very important role in young people's everyday lives, which in addition to the psycho-biological compensatory function it has it also contributes to the enrichment of the theoretical knowledge of the individual, develops the whole of its physico-biological potential, stimulates the intellectual capacity, develops certain moral qualities, increases the capacity of effort, increases the resistance to diseases etc.

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