PHYSICAL EXERCISE AND ITS ROLE IN DEVELOPING STUDENTS' SOME PARAMETERS OF PHYSICAL FITNESS

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Abstract: Physical exercise is one of the most important means in improving the physical fitness. The aim of the paper was to identify the impact of some bodybuilding means on antropomethric parameters like weight, body mass index and the waist-hip-ratio. The subjects (n-50, 15 female and 35 male) were tested before and after implementation of the working programe, the progress being registred. After 5 month, all parameters improved, especialy on waist-hip-ration, being known that is an important tool who can determine the overall health risk. In our case, the program aplyed 3 times/week indicate good results on students fitness. SPSS, v.21 was used to make the statistical analyze. Comparing the two test (initial and final) the results indicated significant improvement for the three mesurements ($p<0.05$).
Key words: *students, fitness, bodybuilding.*

Introduction

Physical education and sport are identified by many specialists, indispensable for asserting the personality of the individual. The development of motor, intellectual and moral skills through physical education and sport is a right and must be compulsory within educational systems. Any form of physical activity that aims at expressing or improving physical and mental condition, developing social relationships, or achieving results in competitions at all levels through organized or not organized activity. The fundamental components of physical culture are: sports values, physical activity (physical exercise), sports excellence, evaluation, human resources and infrastructure, and the philosophy of sport. [1].

Analyzing the effects of exercise on the body of the students, Tremblay and Chiasson [2] say that they are much higher on the adiposity of fitness practitioners than they are generally perceived by specialists and health agencies.

Tucker [3] shows that a good physical condition can significantly reduce the risk of mental disorder in adults of both sexes. Regular exercise can stimulate emotional functioning so that stress factors are easier tolerated. As a consequence, social contacts are positively influenced.

Fitness is a concept and not just physical activity in itself. This term designates a set of more physical activities today, and for some it is a much wider concept, it is a true hygiene of life that involves regular and complete physical activity-capable of developing not only the endurance capabilities but also the force , the speed, the knowledge-capacities of memory, the skills, the orientation in space and the knowledge about the human body and a rational and balanced diet - more and more people wanting to be in the form, are documented on good food hygiene without which physical activity is less efficient [4].

Corbin et al [5] define physical fitness by referring to body composition, cardiovascular fitness, flexibility, muscle strength and muscle strength.

Method

A group of 50 subjects, 18-22 years of age, were included in the research and participated in work programs with bodybuilding specifics 3 times a week for 5 months. Due to the extremely rich range of exercises, the possibility of working separately, isolated processing of muscle groups, thanks to the methodology that is easily adaptable to the specific requirements of various sports disciplines,

bodybuilding has multiple directions of application. The subjects of the research were evaluated anthropometrically before and after the implementation of the work programs.
The assessment consisted in measuring the weight and waist according to which, the body mass index was calculated, and the waist-to-hip ratio was measured. The waist-to-hip ratio is increasingly used especially in the health sector to estimate the risk of cardiovascular or metabolic diseases. If your body mass index shows you have excess fat tissue, calculating your waist-to-hip ratio is a simple way to find out how it is spread around your abdomen and hips. Based on waist and hip circumference and gender, we used an waist to hip ratio calculator.
Inclusion Criteria for Experimental Research:
- 18-20 years of age,
- BMI <30,
- TA and FC within age limits,
Exclusion criteria established for experimental research:
- Cornice diseases;
- subjects participating in specific sports training programs.

Example of Applied Program - 60 minutes
- 10 minutes cardio (tape, bicycle or stepper), warming up tendons, arches and wrists, mild warming up for muscle groups.
- For lower limbs:
o 2 series x 20 repetitions - squats;
o Press at 45 degrees - 3x10 repetitions;
o lying forwards on the device, bending the legs - 3x10 repetitions;
o Ridges on tips - 3 sets x 20 repetitions.
- For the lumbar muscles
o lying forwards on the inclined bench, trunk extension - 2x 15 reps.
- Back
o workstation median traction - 3 series x15 repeats;
- Biceps
o Standing holding the top Z bar - Bending and stretching of the arms - 2 sets x 10 repetitions;
-Trapezium
Standing holding the upper handles, lifting the shoulders - 2 sets x 10 repetitions;
- Pectoral
lying, arms forward, 4 kg dumbbells, stretch arms sideways;
- Chest
lying on the back, pushed dumbbell from the chest: 1 series x 15 repeats;
lying on the back, pushed dumbbell: 2 sets x 10 reps;
- Shoulders
Standing with bent arms, dumbbell at the shoulders, arm stretching: 2 sets x 10 repetitions;
Standing with the trunk bent forward, the upper dumbbells, raising and lowering the arms: 2 sets x 10 repetitions;
- Triceps
On the workstation: bending and stretching of the arms: 2 sets x 10 repetitions;
- Abdomen
Hanging - knees lifting - 2x10 reps;
Lying on the declined bench -lifting the trunk: 2 x 20 repetitions.

The programs were individualized according to the weight, the need and the previous motor experience of each subject, following two major objectives depending on the constitutional type, namely the decrease of adipose tissue and / or growth of muscle tissue mass. Exercises were generally loaded, following muscle hypertrophy, with high workloads. Each subject was given a worksheet at each session in which the weight and dosing of the exercises was different, depending on the target (muscle growth and / or fat loss), as recommended cardio exercises at the beginning of weight training.

Results

Table 1 Results T1-T2

	Weight		Body Mass Index		Waist-to hip ratio	
	T1	T2	T1	T2	T1	T2
Average	70,65	67,22	23,57	21,79	86,34	84,38
STDV	10,55	9,54	2,51	1,68	5,56	4,38
CV	28,5	14,19	10,63	7,37	6,44	5,20
Max	97,30	93,30	32,00	28,00	101,00	93,00
Min	59,00	56,00	20,00	20,00	78,50	76,30
Ttest - p	0,040		0.045			0,03

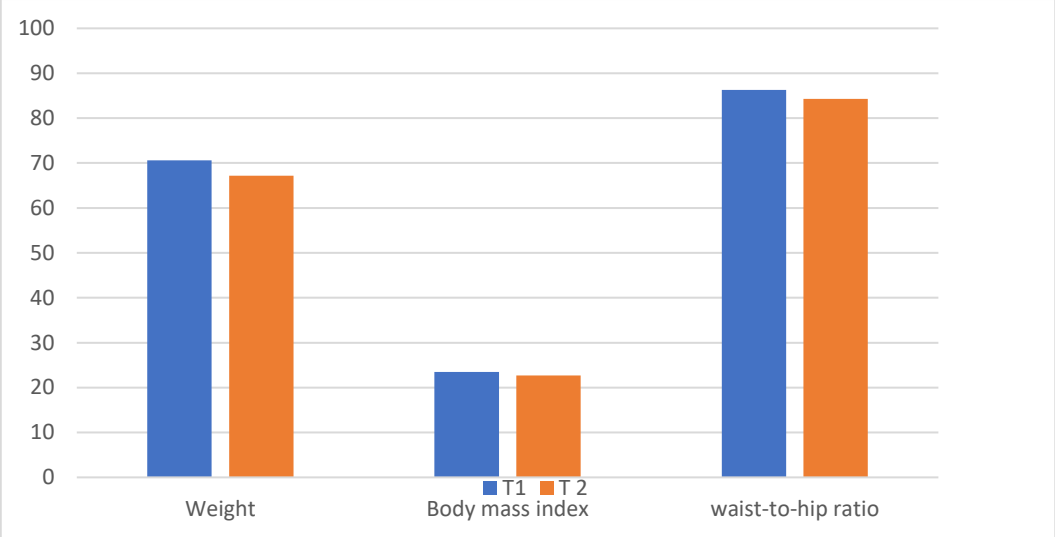

Chart 1. Comparative analise T1-T2

Following the participation in the work programs, there were significant improvements in the tested parameters, the weight having an average value of 70.65 kg in the initial testing and 67.22 in the final testing ($p < 0.05$). The body mass index had an average of 23.57 on the initial test, decreasing to 21.78 at the final, and the work programs objectively intervening on this parameter ($p < 0.05$). The waist-to-hip ratio had an average of 86.34 on the initial test and 84.38 at the final one, with no more than 1 person.

Conclusions and disscutions

The specificity of bodybuilding is that through a system of exercises made with various strains (dumbbells, weightlifting) and with the help of special appliances, they develop a healthy, vigorous, strong, beautiful body with a harmonious and proportionate muscular body, visibly outlined and well pointed [6]. Cosma et al. [7] design an working program based on aerobic gymnastics who improved the physical fitness of the students, also significant chances on body mass index.

The effects of the movement on the individual are manifested by a substantial contribution to the development and maintenance of functional capacities, the preservation of the structures of the body and the limitation of their deterioration due to age and lack of stimulation. They materialize in strength, force and local strength in the muscles, agility, coordination, balance, speed, characteristic of good motor abilities, articulation structure and functions, flexibility, bone

density in the osteoarticular apparatus, aerobic capacity and strength at the level of the cardio-respiratory function, metabolism of carbohydrates and lipids. The above effects are obtained in all people, at all ages, whether healthy or suffering from chronic diseases or with various deficiencies.

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