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THE INFLUENCE OF AEROBIC GYMNASTICS IN IMPROVING THE QUALITY OF LIFE FOR FEMALE STUDENTS IN MEDICAL ACADEMIC ENVIRONMENTS

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Abstract

For the young, physical exercises and sport, organized and continuously practiced are the main factors to counter the sedentary lifestyle, stress and intellectual overwork, and to spend pleasant and useful leisure time. This paper is a pedagogical experiment of longitudinal type through which we want to put out the development and implementation of the experimental programs we proposed, by means of aerobic exercises, to improve the effort capacity, respectively, the well being of female students in medical academic environment.

The purpose of this paper is to identify potential biomotric female students in medical academic environment to apply the most optimal variations of specific programs of aerobic exercise.

Studying the problem addressed was achieved by applying the following methods: the study and analysis of scientific scholarly literature (documentary analysis), observations made during aerobic exercise classes, experimental method, methods of measurement and evaluation, tests method and statistical-mathematical method.

Aerobic exercise scientifically performed in a continuous manner, after 4-6 months is starting to have the following results: excess body fat reduction, general body toning, morphogenetic line aesthetics, increases overall body strength in professional activities, daily activities, etc., positively impacting the training of future doctors. The evaluation identified the performantial behavior for each subject that was part of the experiment, assessing the level of fitness at the beginning of the experimental program and after the application of instructional programs, establishing the exact content and their dosage.

Conclusions**:** By applying our proposed programs with content that covers all aspects related to obtaining a "well being" improving quality of life of female students in the medical academic environment; all this leads to learning and assimilation behaviors with higher returns.

Introduction

For the young students, physical exercises and sport are necessary and they contribute to strengthening their health, improving their moving ability and the education of moral qualities that lead to the ideal of balance: *Mens sana in corpore sano*.

Specific requirements that physical education in higher education is required to solve, confer, along with other scientific disciplines, an important role in complete and complex training of future specialists and increasing human performance.

As a last link of the school system, the higher education offers the optimal environment which is able to intervene and to actively influence, the development, conservation and revitalization of biological potential, the vocation to move among these young people.

General fitness is the ability to make a physical effort reported to the type of constitution and age. A good general physical condition is the ability of a person to conduct daily activities (work, school, family), without the installment of an early fatigue and without overstressing the physiological functions of the body. A general physical condition is best maintained through a regular appropriate physical exercise (sport and fitness).

"The way to obtain a good physical condition has no shortcuts. The only valid physical exercise remains the one correlated with a balanced and effective system of recovery " (Kulcsar. S., 2000).

Aerobics is a physical activity with many positive values, with the main reference point in the motor and mental capacity of the individual with beneficial effects on fitness and health.

Performed under the auspices of *Sport for All*, as a default leisure activity, the aerobic maintenance "features special connotations in this respect, mixing up the usable with pleasure, needs with the attractive, the physical and the mind, the effort and relaxation, the individual with the social"(Macovei S. 2007).

The purpose

The purpose of this paper is to identify potential biomotric female students in medical academic environment to apply the most optimal variations of specific programs of aerobic exercise.

Hypothesis

If the content of the lessons with operational structures characteristic to the aerobic gymnastics maintenance, positively influence the training of the future doctors, then it comes to behaviors with higher returns, planning to develop the sides and aspects of life that are needed in their future professional activity, and thus improve the quality of life for young people in

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the medical academic environment.

Mtaerials & methods

Studying the problem addressed was achieved by applying the following methods: the study and analysis of scientific scholarly literature (documentary analysis), observations made during aerobic exercise classes, experimental method, methods of measurement and evaluation, tests method and statistical-mathematical method.

The pedagogical experiment consisted in the development and implementation of a specific instructional aerobic gymnastics to the medical academic environment female students from U.M.F. *Carol Davila* Bucharest, this unfolding during two semesters of the academic year, a total of 60 to 72 lessons / sessions of aerobic exercise.

Aerobics programs proposed by installments during the academic year were as follows: classic aerobics, dance aerobics, step aerobics, Latin aerobics, Pilates and objects - strings.

Participants:

The experiment was carried out in the gym of the University of Medicine and Pharmacy *Carol Davila*, inside the Faculty of Medicine; the sample subjected to this pedagogical experiment was represented by a group of female students - in the second year of study at the Faculty of Medicine and who chose to attend both the aerobic basic class within the discipline of Physical Education and Sport, and the experimental programs proposed in the scientific approach represented by aerobic exercise training in maintenance performed outside the academic program, in their spare time.

Instruments: anthropometric parameters, motric parameters (general physical trials - exercises for abdominal muscles, 4-cycle complex jump , push-ups and indicator of the motric capability which summarizes results of the three trials) and functional parameters (the Ruffier index and Harvard test).

Results and discussions

The evaluation identified the performantial behavior for each subject that was part of the experiment, assessing the level of fitness at the beginning of the experimental program and after the application of instructional programs, establishing the exact content and their dosage.

The effects of the instructional programs with operational structures specific to the aerobic gymnastics were followed through the individual observation files.

Fig. 1: Graphic indicator "body weight" - experimental group

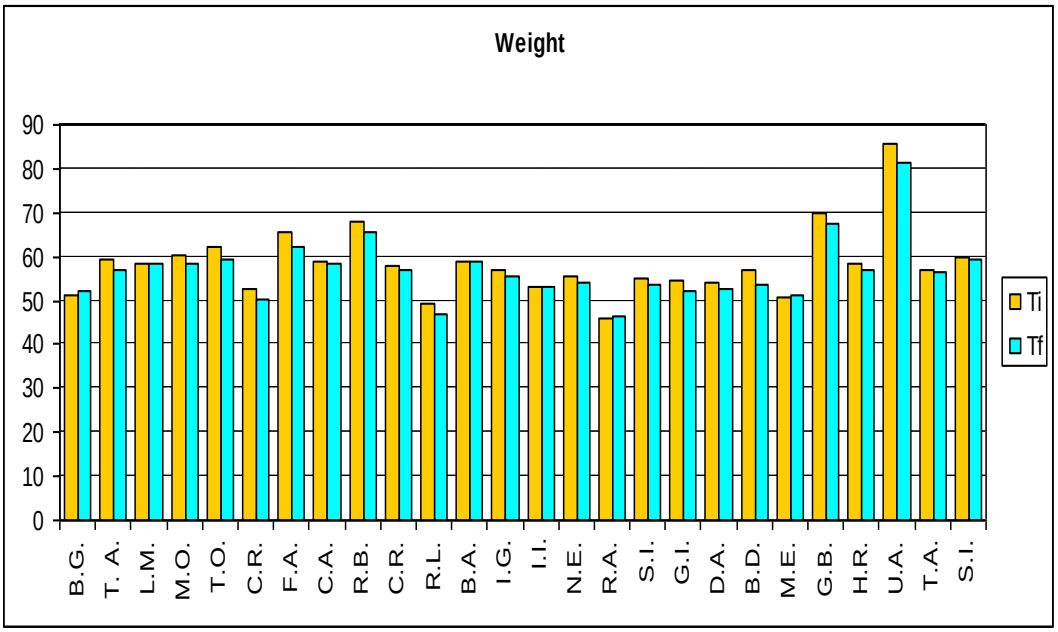

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Fig. 2: Graphic indicator "body mass index" - experimental group

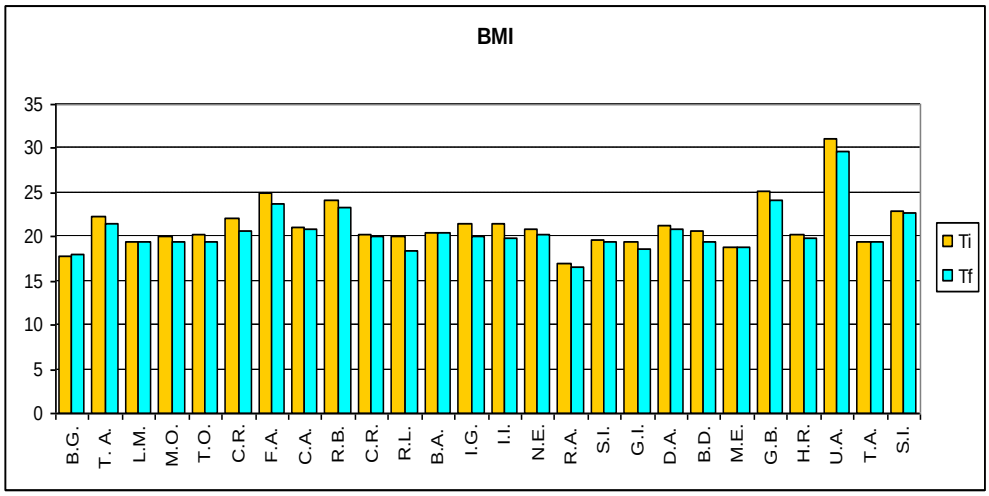

Fig. 3: Graphic indicator " indicator of driving capability" - experimental group

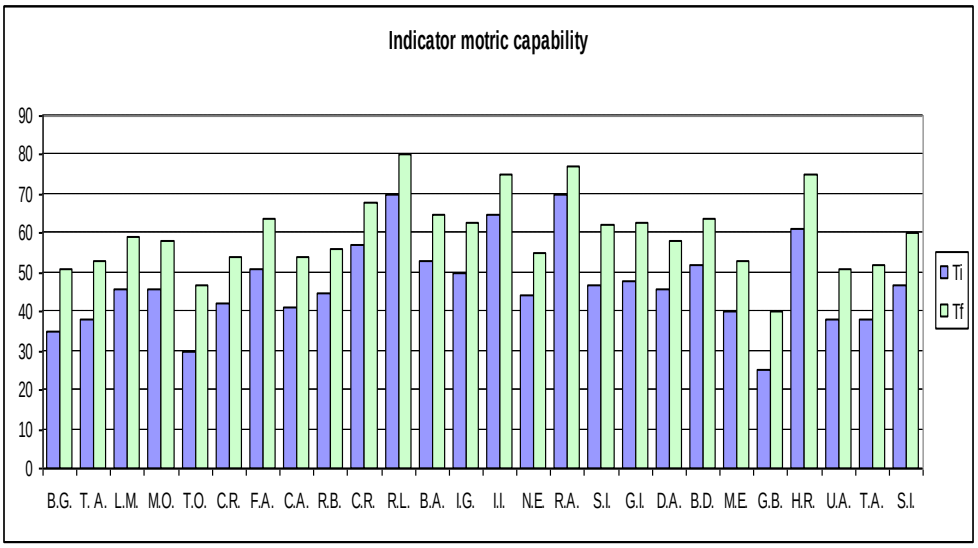

Fig. 4: Graphic indicator " Ruffier index" - experimental group

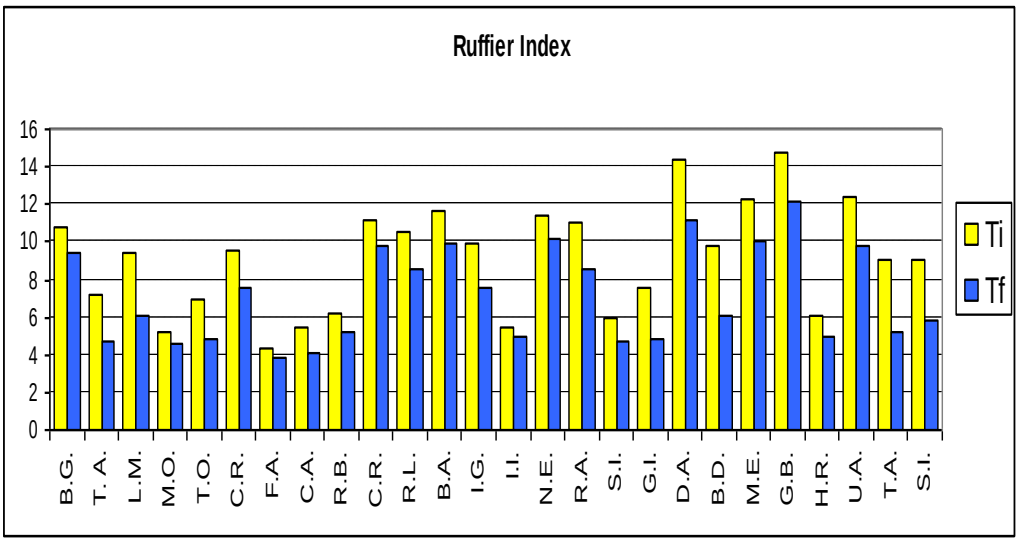

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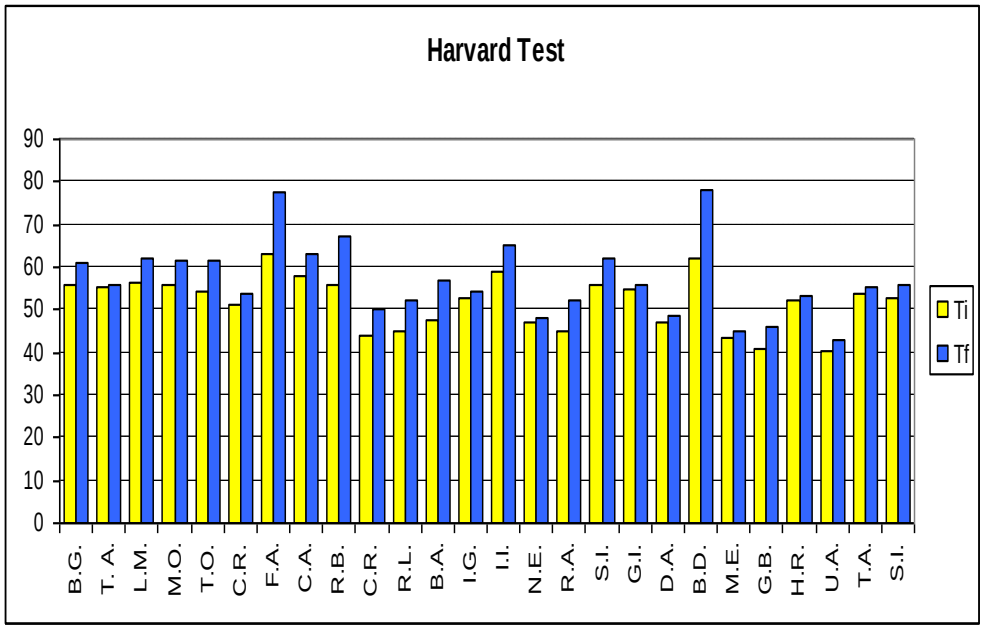
Fig. 5: Graphic indicator "Harvard Test" - experimental group



Tabel 1: Results from the initial and final testing and the dynamics of the evolution of weight and body mass index - experiment group

Statistical indicators	Body mass index		Weight	
	Ti	Tf	Ti	Tf
X	21,26	20,56	58,31	56,91
S	2,89	2,54	7,78	6,98
C.V.	13,17	12,35	13,17	12,26
t	6,092		5,316	
P	significantly < 0,05		significantly < 0,05	
Average growth	3,24%		2,40%	

Tabel 2: Results from the initial and final testing and the dynamics of the evolution of functional indicators trial - experiment group

Statistical indicators	Ruffier index		Harvard test	
	Ti	Tf	Ti	Tf
X	9,14	7,1	51,93	57,14
S	2,89	2,53	6,22	8,76
C.V.	31,61	35,63	11,97	15,33
T	10,731		-6,555	
p	significantly < 0,05		significantly < 0,05	
Average growth	22,31 %		10,01 %	

Tabel 3: Results from the initial and final testing and the dynamics of the evolution of general fitness trial - experiment group

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Statistical indicators	Exercises for abdominal muscles		4-cycle complex jump		Push-ups		indicator motric capability	
	Ti	Tf	Ti	Tf	Ti	Tf	Ti	Tf
X	20,03	22,19	10,84	12,19	16,46	24,61	47,11	59,88
S	3,36	2,6	1,75	1,13	8,33	6,27	11,04	7,49
C.V.	16,77	11,71	16,14	9,26	50,6	25,47	23,43	15,99
T	-11,874		-8,611		-15,972		-30,677	
p	Significantly p<0,005		Significantly p<0,005		Significantly p<0,005		Significantly p<0,005	
Average difference in growth	10,73%		12,36%		49,51%		27,08%	

Fitness and exercise capacity assessment through trials and proposed tests has shown that students subjected to the experiment have achieved significant differences in all seven trials and tests, as follows:

- From the information obtained from initial and final testing anthropometric indicators, we have observed that the programs we proposed, significant increases in average from the initial to the final testing and calculating the "t" test which showed significant values for the two measurements.
- In terms of functional indicators and tests of physical condition - such as the submaximal exercise capacity - Ruffier Index and Harvard Test achieve significant increases in average from the initial to the final testing experiment, for all subjected students, as well as calculating the "t" test which showed significant values for the two indicators and the two tests.
- From the information obtained by testing the initial and final fitness tests, we have observed that the programs we proposed, achieve significant increases in average from the initial to the final testing and calculating the "t" test which showed significant values for the three trials, respectively the indicator of motric capability.

Conclusions

- Aerobic exercise scientifically performed in a continuous manner, after 4-6 months is starting to have the following results: excess body fat reduction, general body toning, morphogenetic line aesthetics, increases overall body strength in professional activities, daily activities, etc., positively impacting the training of future doctors.
- By applying our proposed programs with content that covers all aspects related to obtaining a "well being" (physical aspect, mental aspect, social aspect, aspects concerning hygiene and nutrition, professional aspects, financial aspects and the lifestyle aspects), improving quality of life of female students in the medical academic environment; all this leads to learning and assimilation behaviors with higher returns.

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