

## **IMPROVING FITNESS AND CORPORAL AESTHETICS THROUGH THE HELP OF AEROBICAL EXTRACURRICULAR ACTIVITIES**

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### **Abstract**

The purpose of this research paper is to improve the physical condition (fitness) and body aesthetics of a group of subjects – teenager girls – through the help of a series of aerobic exercises. Practiced repeatedly aerobics activities contribute to the development and maintaining of functional capacities, increased cardiovascular function and improves resistance to effort. Moreover, aerobics exercises help improving body aesthetics by achieving a successful developing index.

The students that participated in this research have been submitted to a series of fitness exercises with the help of an aerobic programme. The aerobics sessions took place four times per week which each session lasting up to fifty minutes. The exercises took place in an aerobic fitness gym in Suceava – Energy Fitness Club. The program lasted for 6 months starting in November 2015 and ending in May 2016.

In order to evaluate the recovery capacity after effort and cardiovascular resistance Dorgo index and Harvard Stept Test have been used. For the evaluation of the somatic side anthropometric measurements have been taken such as: waist perimeter, thigh perimeter, hip perimeter and IMC. And one more test was – [Physical Activities Index](#) who evaluates lifestyle regarding physical effort

Furthermore calculations have been made of fat percentage, body muscular index and water percentage on the tested subjects. The outcomes of the final tests taken prove the efficiency of the applied aerobics programme.

## **Intoduction**

Nowadays modern lifestyles tend to focus more and more on the usage of automated technologies as a support for saving time and effort in daily activities, a fact that led not only to a decreased physical activity but at the same time to a degradation of the locomotors system. As a result of this we tend to move less and eat more.

Health is nowadays defined as not only being the good physical and mental state of mind of an individual but also as “the capacity of physical effort, performance (fitness – according to anglo-saxon), the capacity to recover after effort, a certain resistance gained through training compared to the unfriendly environment and ill factors” etc .”[4]

Physical condition has been permanently associated with an improved health condition and body function in an efficient manner and it includes cardiovascular resistance, force, flexibility, body structure, improved somatic and nutrition indexes. [9]

As notices, physical condition represents apart of one’s health condition and it can also be defined as: “health condition and the power that one might be able to show when working or doing sports.” [3]

The benefits that physical training offers to the human body are highly known and recognized as long as these are wisely chosen and adapted accordingly to the individual needs. As a result of this generally shared perception we witness a high focus on the development of this type of exercises programs, who are strongly related to gymnastics type of activities. On the other hand the term of gymnastics itself has evolved so that nowadays even specialists use the terms of “fitness” or “aerobics” and the classical approach of the gymnastics type of exercises has been left behind.

Training Fitness requires the usage of different training methods that help not only to improve physical aesthetics but also help to improve vital functions of the body and nervous system. Usually the improvement of physical condition with the help of aerobic exercises is strongly related to the ability of sustained effort resistance for a period of 60 minutes focus on the cycle *heart – breath - metabolism – blood flow*.

## **Material and method**

### *Prepositions of the research*

- The Fitness phenomena has drawn much attention and has become a more and more practiced activity targeting different ages.

- Aerobic exercises type of programme - fitness is mainly addresses to woman and has high impact for physical, social and psychical development.

*Hypothesis:* We consider that by applying a series of different aerobics exercises and techniques coming from: Tae - bo, Pilates, Aerobics Gymnastics, combined with different types of exercises practiced on music and balanced with a hypocaloric diet will led to improved physical aesthetics, cardiovascular resistance, functional and effort capacity.

*Purpose of the paper:* creating the environment needed for practicing the aerobics programme developed along with a hipocaloric diet programme for the teenager girls to train on, in order to achieve the expected hypotesis.

*The research methods* used in this research were: the study of the bibliographical material, the observation, the experiment, the tests, the statistical-mathematical method and the graphical representation method. The aerobics programme consisted of a series of physical development exercises, relaxing exercises, weight exercises and a combination of Pilates exercises system and martial art exercises.

- Applying the exercise programme – 4 times p/w
- Programme longetivity – 26 weeks
- Average longetivity p/w – 150 minutes
- Total working time – 3900 minutes

## Results and discution

The results of the study are relevant, superior values being recorded during the final tests than in the initial ones, proving the effectiveness of the methods that were applied and of the operational models used during the experiment. Table 1 and table 2 presents the data recorded during testing. After applying the study, the results for the initial and final test are the following:

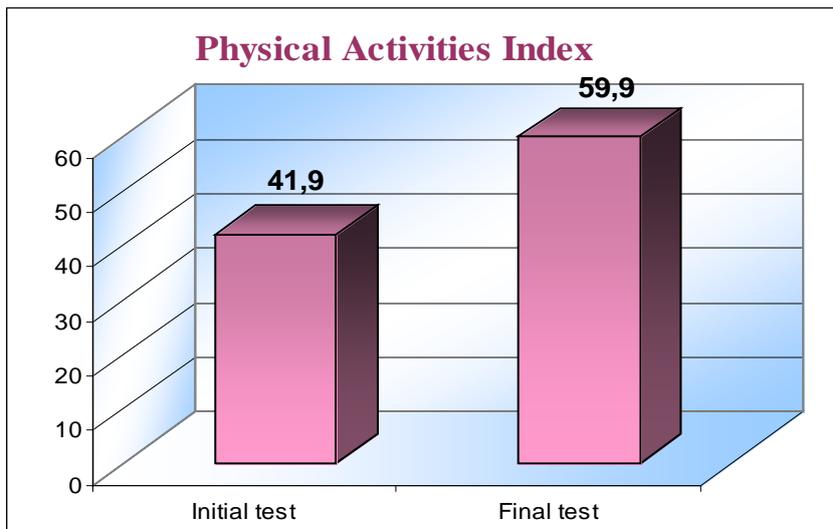
**Table 1 - The statistical results - Initial and Final Tests**

Evaluation tests	Initial test			Final test		
	Average	Standard deviation	Variability coeff.	Average	Standard deviation	Variability coeff.
<a href="#">Physical Activities Index</a>	41,90	16,19	0,38	59,90	20,06	0,34
Body mass index	23,67	2,17	0,09	21,2	1,30	0,06

Dorgo Index	8,2	2,36	0,28	6,54	2,93	0,44
Harvard Step Test	52,23	13,98	0,26	63,92	12,92	0,20
Weight	67,27	8,32	0,12	59,59	5,19	0,08
Waist perimeter	81,77	8,43	0,10	75,19	5,92	0,07
Thigh circumference	60,40	3,16	0,05	58,22	3,00	0,01
Hip perimeter	102,95	11,87	0,11	96,54	7,96	0,08
% fat	34,37	8,44	0,24	31,23	6,78	0,21
% muscle	26,88	4,46	0,16	29,45	3,77	0,12
% water	49	6,14	0,12	54,23	4,85	0,08

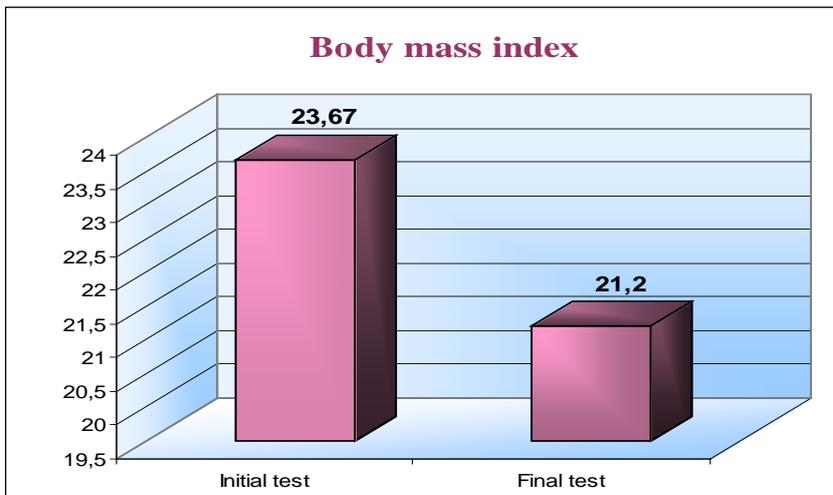
**Table 2 - Interpretation of results**

Evaluation tests	Significance	Values	No. of subjects			
			I.T	%	F.T	%
<b>Dorgo Index</b>	Very good	-10 - -5	0	0%	0	0%
	Good	-5 – 0	0	0%	0	0%
	Average	0 – 5	2	18%	5	45%
	Satisfactory	5 – 10	5	45%	5	45%
	Unsatisfactory	> 10	1	36%	1	9%
<b>Harvard Step Test</b>	Good	> 80	0	0%	3	27%
	Average	50 – 80	6	54%	6	54%
	Poor	< 50	5	45%	2	18%
<b>Body mass index</b>	Underweight	< 18,45	0	0%	0	0%
	Normal (healthy weight)	18,50 - 24,99	6	54%	11	100%
	Overweight	25,00 - 29,99	5	45%	0	0%
	Obese I(Moderately obese)	30- 34,99	0	0%	0	0%
	Obese II (Severely obese)	35 - 39,99	0	0%	0	0%
<b>Physical Activities Index</b>	Very active lifestyle	81 – 100	0	0%	1	9%
	Active and healthy	61 – 80	2	18%	5	45%
	Acceptable -could be better	41 – 60	4	36%	2	18%
	Not good enough	20 – 40	4	36%	3	27%
	Sedentary	< 20	1	9%	0	0%
<b>Fat</b>	Very low fat	<12%	0	0%	0	0%
	Low	12% - 15%	0	0%	0	0%
	Optimum	15% - 25%	3	27%	3	27%
	Slightly higher fat	25% - 30%	0	0%	1	9%
	Hight fat	30% - 35%	1	9%	3	27%
	Very hight fat	peste 35%	7	63%	4	36%



*Figure 1. Physical Activities index values*

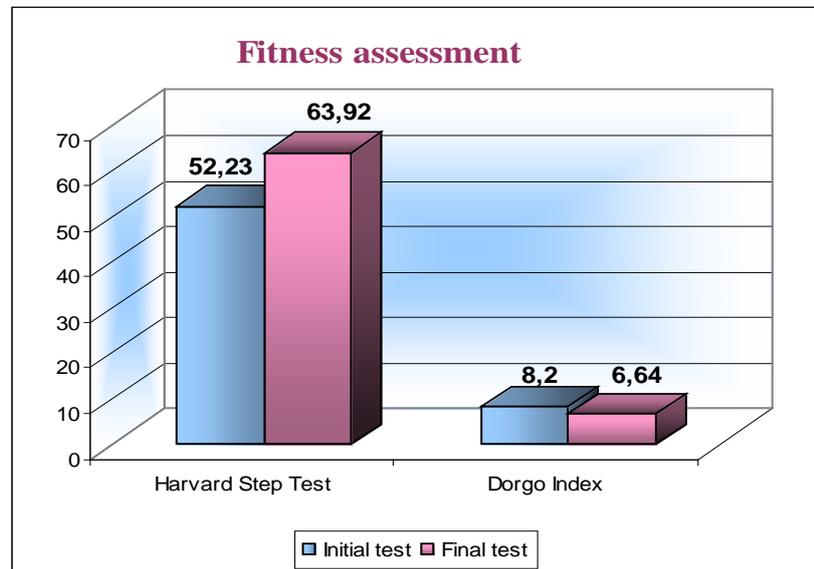
As we could see in figure 1, in the first test where we evaluated the physical activity index, we obtained an average of 41.9 which means that girls have an acceptable lifestyle approaching the sedentary style. After performing aerobic exercise, we obtained an average of 59.9 which means an active and healthy lifestyle.



*Figure 2. Body mass index values*

The average of body mass index was 23.67 at the first evaluation, approaching the overweight. As we noted in the above table (Table 2),

five girls who representing 45% have a overweight index. After implementation of the program with aerobic exercise for 6 months , we see that all the girls have reached a normal weight with a 100% percent.



*Figure 3. Harvard Step Test and Dorgo Index values*

During the Dorgo Index initial test one can see that an arithmetical means of 8,2 was recorded which means that the subjects recorded an *average* adaptation to effort; however, during the final test, a value of 6.64 was reached, showing a *good* adaptation to effort of the subjects.

During the Harvard Step Test initial test (the physiological assessment of the functional aerobic capacity), an arithmetical means of 52,23 was recorded which means that the subjects adapted insufficiently to the effort; however, during the final test, a value of 63,92 was reached, meaning an average adaptation to effort of the subjects.

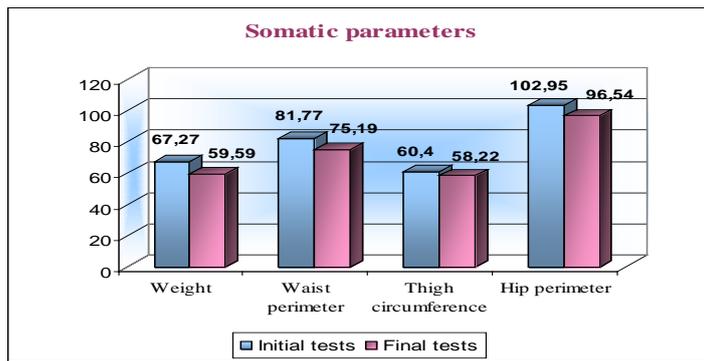


Figure 4. Somatic parameters

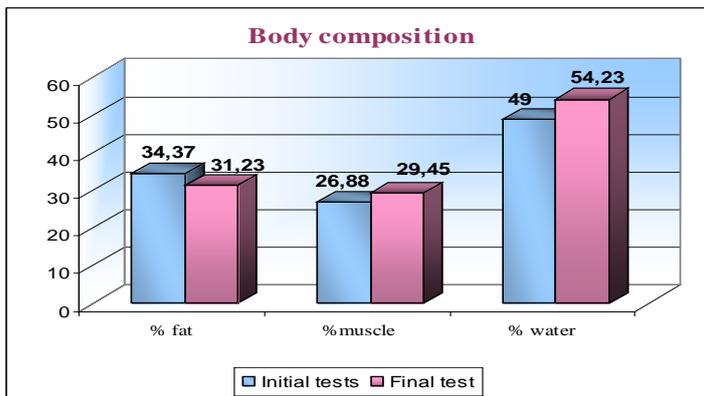


Figure 5. Body composition percent

In Figure 4 where are represents the values of somatic parametere (weight, waist perimeter, thigh circumference and hip perimeter), all values were reduced by a few inches. In figure 5 we noticed the following changes. If in the first test, we got a average of fat percentage - 34.37%, which means a very high growth (7 girls representing 63 % had a very high weight, 1 girl had a higt weight and three girls had a normal fat percentage). After 6 months of training, in the final tests we obtained a decrease of the percentage of weight – average 31,23. 4 girls representing 36 % had a very high weight, 3 girls had a higt weight and three girls had a normal fat percentage. We also see an improvement of the percentage of muscle mass and body water.

### Conclusions

1. Diet with exercise are factors that can help increase physical conditions improve body appearance and increase the indices of basic physical qualities.
2. The best treatment against weight gain in association consists of the following: decrease calorie food + increase in energy consumption through exercise.
3. Each session of exercise should be about 50 minutes, and participation should be at least 2 -3 times a week in order to have the desired effects in a short time.
4. An effective training program and a good professional advice are elements that contribute to the objectives in a much shorter time and avoiding risk of injury.
5. The experimental results confirm the effectiveness of the programs.

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## ÎMBUNĂTĂȚIREA CONDIȚIEI FIZICE ȘI A ESTETICII CORPORALE PRIN ACTIVITĂȚI AEROBICE EXTRACURRICULARE

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**Cuvinte cheie:** activități aerobice, optimizarea condiției fizice, remodelare corporală, fete adolescente, activitate extracurriculară

### **Rezumat**

Cercetarea de față a avut are drept scop îmbunătățirea condiției fizice și a esteticii corporale a elevilor de liceu, prin implementarea unor programe de tip aerobic. Practicate în mod repetat, exercițiile aerobice contribuie la dezvoltarea și menținerea capacităților funcționale, la creșterea rezistenței cardio – vasculare și a capacității de efort precum și la îmbunătățirea esteticii corporale prin obținerea unor indici armonioși de dezvoltare.

Elevele cuprinse în cercetare au fost supuse unor programe aerobice de tip fitness, de patru ori pe săptămână cu o durată de 50 de minute fiecare ședință în cadrul unei săli de aerobic – fitness din Suceava – Energy Fitness Club. Durata întregului experiment a fost de 6 luni (noiembrie 2015 – mai 2016).

Pentru evaluarea capacității de refacere după efort și a rezistenței cardio – vasculare am folosit indicele de refacere Dorgo și Havard Stept Test, iar pentru latura somatică am efectuat unele măsurători antropometrice (perimetrul taliei, perimetrul coapsei și perimetrul șoldului, IMC), calculând mai apoi și procentul de grăsime, de masă musculară și de apă din organism. Rezultatele superioare obținute la testările finale atestă eficiența programelor aerobice aplicate.