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THE EFFECTS OF SHADOW PLAY ON MOTOR ABILITIES AND SELF-ESTEEM FOR CHILDREN

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Abstract
Purpose. The traditional shadow play which is a traditional storytelling art has a great potential to be incorporated into a virtual storytelling environment. In this paper we explore and investigate the possibility of developing the motor abilities and self-esteem for children by age 5-7 years by using shadow play.
Methods. Participants were 20 children (M age = 6.35 years, SD = 1.87) who all regularly participated in school activities. The sample was distributed into one group, the experimental group contains (20 kids) the experimental group participated in the shadow play program for 8 weeks. All participants completed the self-esteem checklist, which used to measure self-esteem for kids.
Results. The data revealed that significant improvement in motor abilities and self-esteem for children the findings indicated that the implication of this research for teachers working with shadow play is that to match preferences.
Conclusions. Finally, shadow play, for 8 weeks, resulted in an increase in motor abilities and self-esteem for children. These results have to be taken into account by teachers in order to better understand and implicated of these concepts in movement education lessons.
Key words: shadow play, self-esteem, kids.

Introduction

The play is the main activity of which depends upon the kind of exploration into the mysteries of life, and so the dramatic nature games, which depend on the simulation, have a major role in the emotional growth and cultural and social child. They are basic that from which the child learns and grows and arrange his thoughts and regulates feelings, they also help the child to employ his body to express a certain idea of the best way.

The teacher can, through this type of games hire stories and short stories that are defined by the child to which highlights some aspects of the game itself you can drama for example modify certain personal qualities as conformity and a personality that is represented.

And the most important childhood stages in human life, at this stage the child's capabilities and grows talents and is capable of influencing the direction and composition. So the children's care and attention to the activities of the most important influences that contributes to the progress of societies (Arwa, 2006).

The children developed societies are characterized by the growth of my body and my mind sound as they are more educated and more educated compared with other communities so the existing educational process educational for the children of pre-school care planning and design of educational programs and educational measures to include different types of experiences that aim to grow the integrated child using teaching aids different (Hasaniya, 2003).

And the most important childhood stages in human life, at this stage the child's capabilities and grows talents and is capable of influencing the direction and composition. So the children's care and attention to the activities of the most important influences that contribute to the advancement of societies and children developed societies are the growth of my body and mind healthy and are more educated and more culture in comparison with other communities so the educational process educational preschool children take care of the planning and design of educational programmes that include different types of experiences aimed at the integrated development of children by using different teaching methods (Sharon, 2006).

The child's first live dramatic experiences through simulation simplified some of the attitudes that belong to human, animal or inanimate objects as well as being dynamic exercises of great benefit.

The theatre in general also means that the

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children imagining things exist in fact compared each other and change it and accept or reject them (Plotnik, 1993).

Puppet theatre is a form of theatre which employed in educational processes and educational and behaviour modification in kindergartens depending on the child's relationship with the bride so unite child bride and acquire the knowledge and information of how interesting and granulated in the theatrical fun and forms of these brides shadow that had children much acclaim for its uniqueness in form and diversity of movements that can raise a child's imagination, which increases motivation Children towards learning and raise the degree of their understanding of what they learn (Fatma, 1983).

(Tracey, 2007) noted that the puppet theatre is a form of theatre which employed in educational processes and educational and behavior modification in kindergartens depending on the child's relationship with the bride so unite child bride and acquire the knowledge and information of how interesting and granulated in the theatrical fun and forms of these brides shadow that had children much acclaim for its uniqueness in form and diversity of movements that can raise a child's imagination , Which increases the motivation of children towards learning and raise the degree of their understanding of what they learn.

The use of puppetry helps children gain educational experiences that help them to realize themselves as well as their leisure and recreation and, on the other, this art is a powerful way to express ideas and different themes so used puppetry in kindergarten in many countries of the world through his Theater activities that provide an opportunity for collaboration and creative work in drawing and puppet making and representation. (Sharon, 2006).

(Kamal Eldin, 2003) noted that the shadow theatre is a theatre which uses the flat screen on the brides face the masses white paper chips are manufactured and installed on a wooden frame and left a few feet on the other side of the light source off a bridesmaid spot light adjacent to the screen to configure the shadow image

And agreed with Kamal Eldin, 2003; (Sabu moghli, 2002) it is shadow puppets of the oldest types of puppet and shadow puppets feature from other types of brides that they see during the show indirectly through which that falls on the curtain with the help of light which goes beyond just turn to the picture viewer just a silhouette of cartoon characters has its own charm.

(Awatif, 1990;Nahla 2008; . Aza, & Fatima, 2008) indicated that the importance of the shadow games in kindergarten, which combine the following:- improve the intelligence of children and develop their thinking.

- Help with exactly the motor body and motor skills.
- The importance of approaching the body of the display, and the importance of placing the light source vertically, to be the shadows of the body and its movements and clear shades.
- Using their bodies and using shadow puppets in the expression of body positions and trends and movements in contact with others.
- Shadow puppets with a strong fascination for children and are beneficial for children.
- Enrich the shadow shows the experiences of children, develop the mentality of the child gives it focus its attention to the puppet performance and give the characteristics of personality.
- Develop the child's skills handwriting because all movements studied and implemented the shadow bride slowly in accuracy and consistency with speech and performance.

Children begin to configure the initial feelings of appreciation of themselves since the sixth week of life and based on their calendar for how the world responds to the emotional and physical needs and self-esteem in children varies during different stages of their development and depending on how important people respond in their lives to their needs and depending on the degree of their success in passing each stage of growth (Risonr, 2000).

Self-reveals the true identity of the individual and shows trends toward the same whether positive or negative trends and thus began this term of great interest in the theories of personality.

And that many of the problems of children from feeling low self-esteem, feeling the children about themselves is one of the basic determinants of behavior, and a child as a person without self-esteem lacks value, and affects their motivation and attitudes and behavior. (Aml , 2008)

Self-esteem refers to a positive individual for himself, in the sense that the same individual to look high look includes self-confidence, as well as a sense of individual competence and merit and willingness to accept new experiences.

(Ahmed, 1999) notes positive self-concept in children depends greatly on receiving a positive assessment of the child unconditionally and that means acceptance of the child regardless of his behavior.

And the only factors that determine the level of self-esteem in children including how others treat us like individuals who were treated with the respect and attention by other people such as teachers and colleagues often have a high degree of esteem.

In this study we will explore and investigate the possibility of developing the motor abilities and self-esteem for children by age 5-7 years by using shadow play.

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Methods

The sample included (20) kindergarten children (5: 7) from the kindergarten which connected with the kindergarten College in Fayoum governorate, plus (10) children to conduct the survey research.

Sample conditions.

- Regular attendance to the role of children in the kindergarten.
- The consent of guardians to their children's participation in research.

Tools.

- Rstamitr to measuring length.
- Medical scales to measure weight.
- An integrated theatre of puppets.

The tests

- Throw a tennis ball on the numbered circles for measurement accuracy.
- Stand on one foot to measure the level of balance.
- Walk in a straight line to measure the level of walking.
- Jump over the hurdles to measure power.
- Running 30 meters to measure the level of speed.

Self-esteem scale

The researchers had designed a questionnaire to measure self-esteem of children where this scale contains four dimensions: (self-family-friends-custody)

First dimension:

Very confident about and means feeling confident with himself through the internal sense of complacency. (Through the researchers with kindergarten teacher).

Second dimension:

Confident with family and means that individual members of the family have loved and appreciated within the family. (By parents)

Third dimension:

Confident self with friends "means that the individual has the appreciation and interest with friends and love and rating friends. (Through the researchers with kindergarten teacher).

Fourth dimension:

Confident self in kindergarten "means an individual feeling that his role in working on the highly important and effective in action. The researchers with a school class and went through the process of designing the form in several steps starting from the dimensions form and paragraphs prepared and they maintain to fit specific jobs during the survey reference for studies on the level of self-esteem and self-esteem of the child in particular.

As well as an expert survey form for specialists in education and psychology contains some questions relating to each of the four dimensions form and Bah, symptoms of self-esteem in children and drafting of paragraphs and display scale dimensions, and paragraphs on the areas of specialists in the field of psychology, sports psychology and concluded that the results of the expert opinions to the adoption (25) paragraph distributed on four dimensions of scale and approved by experts (100%).

Pilot study

The researchers applied the survey from 10/2/2011 to 12/2/2012 on a sample of 10 children of a sample of the research community and outside of basic research to sample.

- Select the time that could be spent on tests.
- Validation of devices used in the measurement.
- Identify any constraints and try to avoid them.
- For optimal arrangement for measurements.

The shadow program

The proposed program aims to effectively use shadow theatre in development of some motor skills and self-esteem in children.

The program foundations:

- Taking into account the principle of diversity in the performance of motor skills using puppet so children do not feel bored.
- Principles of gradient from easy to hard, from the simple to the complex in motor skills.
- Be guided by the results of previous studies when designing the program.

The temporal distribution (to the program) for the proposed unit by using the shadow theatre:

- Listen and watch.(10 minutes)
- Explanation from the teacher. (10 minutes)
- Module to apply what has been seen. (20 minutes)
- Calm down. (5 minutes)

Statistical Analysis

All statistical analyses were calculated by the SPSS statistical package. The results are reported as means and standard deviations (SD). Differences between pre and post measurements were reported as mean difference ±95% confidence intervals (mean diff ± 95% CI). Student's t-test for independent samples was used to determine the differences in parameters between pre and post measurements in the experimental group. The $P<0.05$ was considered as statistically significant.

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Results

Table 1. Mean ± SD and Skewness among experimental group

o.	Variables	Mean	± SD	Median	Skewness
	Age	5.2	2.15	5.00	0.65
	High	60.5	1.15	60.2	0.98
	Weight	24.3	2.61	24.1	1.12
	Accuracy	8.5	1.12	8.2	1.10
	Balance	4.6	1.10	4.3	1.36
	Level of walking	6.9	1.35	6.5	0.65
	Power	3.5	0.98	3.2	0.98
	Speed	17.2	1.02	17.00	0.65
	Self-esteem scale	31.5	1.98	31.2	0.47

Table 1. Shows that all valueless (±3) which indicated that the sample is homogeneity

Table 2. Mean ± SD and T sign between pre measurements and post measurements in movement skills and Self-esteem scale for the experimental group

o.	Variables	Pre Mean	± SD	Post Mean	±SD	Change %	T Sign
	Accuracy	8.5	1.12	11.6	.15	26.7	2.45*
	Balance	4.6	1.10	6.7	.18	31.3	2.33*
	Level of walking	6.9	1.35	12.6	.17	45.2	3.15*
	Power	3.5	0.98	7.15	.20	51.00	3.21*
	Speed	17.2	1.02	15.7	.31	9.50	2.45*
	Self-esteem scale	31.5	1.98	42.1	.15	25.1	3.31*

Table. 2 Shows that there are significant differences between pre measurements and post measurements in all physical variables and the improvement rate between 9.50% to 51.00% .Adding there are significant differences between pre measurements and post measurements on all items of the Self-esteem scale test. The improvement rate is 25.1%

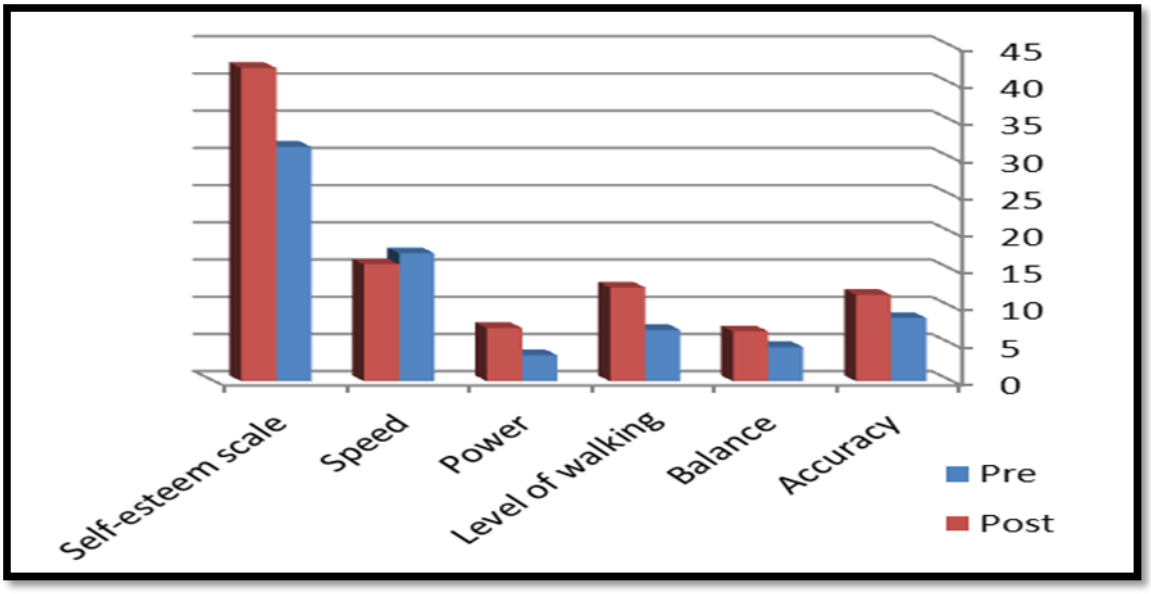

Fig 1 explain the improvement between pre measurements and post measurements in movement skills and Self-esteem scale for the experimental group.

Discussion

According to the results and the improvement. The researcher attributed significant differences between measurements as a result of the application of fingerprinting program proposed by using shadow theatre which led to improved physical qualities and particular level jump and walk because of the repetition of the story presented in the shadow theatre.

According to (Arwa, 2006) that Theater activities help in education of the child and the education which turns the classroom into a drama and graduated with a teaching process of traditional form to an interesting break-bored and used to teach many activities or as a method of teaching, activities or idea how attractive and entertaining through representation. that children developed societies are the growth of my body and mind healthy and are more educated and more culture in comparison with other communities so the educational process educational preschool children take care of the planning and design of the educational programmes include different types of experiences aimed at the integrated development of children by using different teaching methods. (Shaimaa, 2010)

and the gameplay is basic activity that supports this kind of exploration of the secrets of life, and so the games are simulation-based drama has a key role in emotional development, cultural and social, it is essential the mechanism through which the child learns and grows and arranged his ideas and organize his feelings, it also helps the child his body to express an idea in the best way. (Hamid, 1997)

As a result of the application of the proposed program with shadow theatre which led to improve self-esteem in question to exercise the puppet stories collectively and for children in Shadow Theater.

The results of this study are consistent with the study of (Aladdin, 1989) refers to an individual's self-esteem, positive, meaning that the same individual to look high look include self-confidence, as well as a sense of individual competence and merit and willingness to accept new experiences. and finds (A. Roberts, et al. 2004) the level of appreciation for our characters is affected by how he treated others, individuals who were treated with the respect and attention by other people such as teachers and colleagues often have a high degree of esteem, and the children, especially adolescents, associated more with their friends and their colleagues, who might have different beliefs and opinions about the family, which gives greater appreciation and sometimes results from this relationship with comrades estimate Autonomous low if compared with the last estimate(Abdalla , 1994).And the researchers sees to grow with child concept only for itself and thus achieve the same positive assessment, parents and educators should develop those negative aspects of factors affecting self-esteem into account so as to avoid and overcome and the engagement of children peer esteem factor increases. (Aricak, 2002).In this regard, notes (Hamid, 1997)for the peer group, they play an important role in shaping the individual help in the physical development of the child by providing opportunities to practice sports, and mental growth through hobbies, and social growth through social activities, making friends, and emotional growth and the more rational peer group was positively impacted individual and that the negative impact was perverted. has been the second hypothesis, which States the existence of significant differences between the tribal walbadi of the MRDS degrees children experimental group on self-esteem for telemetric.

Conclusions

- Effectiveness of shadow theatre in some motor skills improved throw-balance-walking-jump-run) to the kindergarten as a result of the use of shadow theatre.
- Effectiveness of shadow theatre in improved self-esteem as a result of the use of the kindergarten shadow theatre.

Recommendations

- Guided by the proposed programme for shadow theatre in the educational process in kindergartens.
- Studies and research are similar to some other motor skills to the children of the kindergarten which can develop through the shadow theatre.
- Linking types of performing arts and learn the motor skills in kindergarten.

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STUDY CONCERNING THE INFORMING OF THE YOUNG POPULATION CONCERNING THE MOTOR ACT, BLOOD GROUP AND THEIR IMPORTANCE FOR LIFE

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Abstract
Aim. The present research aims to bring forward an issue much discussed, but little approached in practice, concerning the importance of the motor act, blood groups and the level of awareness of young people about their importance for life, and how not knowing one of these factors may become a negative phenomenon with a permanent impact, even catastrophic we could say, in a vital issue, where seconds count in saving a life.
Purpose of Study: The research was undertaken during the Physical Education and Sport lessons, on a group of 390 students (boys and girls) I and II years of study, enrolled in the Petroleum-Gas University of Ploiești.
Research Methods and techniques. The research methods and techniques used to address the purpose and research objectives are: The bibliographic method – provides information regarding the approached subject, and reference literature; the observation method – direct investigation; the statistical-mathematical method; the graphical method; the experimental method.
Findings. This research was based on the hypothesis according to which most teenagers do not give importance to blood groups, because they did not have the necessary amount of information concerning their importance in saving a life, in case of accidents or in unexpected situations.
Conclusions. Information on indicators related to health problems and life can offer young people the chance to understand the importance of knowing blood groups, when they participate in organising motor acts (Physical Education class) and to prevent any problems or delays in case of an accident or unforeseen events, when time is a decisive factor in saving lives.
Key words: motor act, students, blood group, accidents, Physical Education, life.

Introduction

"Blood groups are fundamental as creation itself ... they are our ancestors signature on the indestructible path of history" (Peter & Whitner ., p. XIV) and have a "feature inherited from our parents, which determines compatibility with others, in case of a blood transfusion.

Establishing it is very important, in order to know, in case of serious illnesses or accidents, what is the blood group that the affected person needs." (health.hause.ro› Health › Diseases, 2009, p.1**),** and for this reason we believe that no scientific approach is solitary, but always accompanied by information, data, coming from the same science, and also by collateral sciences

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that intersect, intertwine or complement each other harmoniously, in order to form a whole scientifically argued.

The present research aims to emphasize an issue much debated, but little approached in practice, regarding the importance of knowing blood groups. We will also discuss about weaving this knowledge into the motor act, action and activity, conducted during Physical Education lessons, where learning through motion, and informing the public about their health status or possible dangers, are common-sense activities, which target the immediate care, information and prevention attributes of the teacher.

It is widely acknowledged that this is a fair option "which can be made only based on our individual genetic codes" (Dr. Peter. & Whitne., p. XIV), due to the fact that "blood it self is life, is the primordial force fuelling the power and mystery of birth … blood is alchemy" (Peter & Whitner C., p. 3).

Based on blood groups, scientists were able to draw a migration map of our ancestors, discovering how they adapted to geographic, climacteric, and social changes; in other words, blood groups are "... a continuous cord that binds us one to another" (Peter . & Whitner , p. 4)

Hypothesis

This research started from the hypothesis according to which most teenagers do not know their blood group, because they did not have the necessary amount of information concerning their importance, and because they were unaware that this piece of information may become a decisive factor in saving a life, in case of accidents or in unexpected situations. Given the situation where they could be informed, we believe that their mentality and attitude would change, encouraging them to access research laboratories, specialised in providing information about blood groups.

Methods

3.1. Subjects

This research was undertaken during the Physical Education and Sport lessons, on a group of 390 students (boys and girls) I and II years of study, enrolled in the Petroleum-Gas University of Ploiesti.

3.2. Research methods

- Bibliographic study method;
- Observation method;
- Investigation method (conversation, enquiry, questionnaire, etc.);
- Statistical-mathematical method;
- Graphical method.

3.3. Research purpose

The research purpose was to emphasize a lack in the youth education regarding an important, decisive for life but little publicised factor – knowledge of blood groups.

As long as students are required to bring a medical certificate in order to prove that they are able to sustain physical effort, in the same extend, they should make proof of blood group, as a protective measure. Therefore we believe it is a duty and an imperative act, especially for members of the didactic staff, who are specialised in Physical Education, to focus on sharing information regarding blood groups among all participants in Physical Education lessons, and on presenting this piece of information as a vital factor in saving lives.

Research content

Taking into account all these aspects, we started our investigation, under the form of a questionnaire, concerning the awareness of each young individual taking part in Physical Education lessons, the level of awareness about blood groups, their importance for life and how ignorance can be a negative phenomenon with an ultimate impact, disastrous we may say, for a vital matter, "where seconds count" in saving a life.

Result. In order to sustain our statement, we chose randomly students from 15 groups, meaning a number of 390 subjects, who answered a questionnaire implemented by us, composed of 12 items with closed answers (yes, no), according to questions recorded in Table 1, entitled *Identifying the awareness of each young individual regarding blood groups and their importance for saving a life.*

Table 1 Observation protocol concerning the identification of the awareness of each young individual regarding blood groups and their importance for saving a life

Items from the questionnaire implemented with the purpose of identifying the awareness of each individual.	**Number of responding students Result in number of students and percentage before (I.T.) and after information (F.T.)**							
	I.T. Yes	**%**	**I.T. No**	**%**	**F.T. Yes**	**%**	**F.T. No**	**%**
1. Do you know your blood group?	66	16.93%	324	83.07%	240	61.53%	150	38.47%
2. Do you know how many blood groups exist?	74	18.97%	316	81.03%	230	58.97%	160	41.03%
3. Were you given precise information about	76	19.49%	314	80.51%	320	82.05%	70	17.95%

blood groups in high-school/university?								
4. Were you informed, during your school activity, about the importance of knowing blood groups, and how this information may save lives?	82	21.02%	308	78.98%	320	82.05%	70	17.95%
5. Did you know that not all blood groups are compatible for transfusion?	66	16.93%	324	83.07%	318	81.53%	72	18.47
6. Blood groups are involved in the determination of personality. Did you know that?	66	16.93%	324	83.07%	240	61.53%	150	38.47%
7. Are you informed that you can donate blood to save a life?	75	19.23%	315	80.77%	327	83.84%	63	16.16%
8. Do you think it would be important to go to a blood collection centre to find out what blood group you have?	240	61.53%	150	38.47%	340	87.17%	50	12.83%
9. Did you know that for finding a group of blood scientists need a period of time?	66	16.93%	324	83.07%	249	63.85%	141	36.15%
10. Have you ever thought that the time required for a laboratory to determine your blood group could be fatal, if your life is in danger?	66	16.93%	324	83.07%	240	61.53%	150	38.47%
11. Knowing all the aspects described above in the questionnaire, do you consider important that we should all know our blood group?	79	20.26%	311	79.74%	240	61.53%	150	38.47%
12. Do you know your blood group?	66	16.93%	324	83.07%	240	61.53%	150	38.47%
Total answers in %	A total of = 390 students answered this questionnaire.							

Discuss

At the initial test (I.T.), after the implementation of the questionnaire, we concluded that a number of only 66 students, from the total of 390 questioned, knew their blood group, meaning a proportion of 16.93%, while the rest of 324 students, a proportion of 83.07%, did not even hear of the subject. This aspect brings us very close to the research hypothesis, according to which many individuals belonging to the young population do not know their blood group because they have no information on the importance of this piece of information, and on the implications it may bring (accidents, etc.).

In the teaching process, after this event, we considered that it would be efficient to use the formative-informative character of the Physical Education lesson, at which we added a factor with positive emotional impact, namely our approach to students through the nature of the discipline, and we started a campaign of information for the discussed phenomenon.

After the initial test (I.T.), observing the lack of information mentioned above, we started to share systematically in each lesson over the entire semester, based on the questionnaire implemented, and identically for all subjects, themed data regarding:

- the history of blood groups;
- the typology of blood groups;
- the importance of knowing blood groups for saving lives in case of accidents;
- blood transfusions;
- the necessary time for determining a blood group in laboratory analyses;
- the spread of blood groups in Romania;
- the link of blood groups and Physical Education, etc.

Questions number 1, 5, 6, 10, and 12 were "trick" questions, having the purpose of verifying the truth from each statement in the questionnaire. Hence, a logical string of questions followed, repeated under another form, in order to verify the students' statements.

Through the percentage recorded by the chosen subjects, they gave proof of sincere answers for the items from the questionnaire, due to the fact that the later report was significantly close or equal to the one registered for each item (see Table 1).

At the final test (F.T.) we observed changes of attitude, demonstrated by the answers recorded in parallel in Table 1, and presented in Graph 1 and 2.

This analysis was undertaken with the purpose of emphasizing the differences interfered, as a result of the occurrence and identification of each individual's awareness, regarding the importance of knowing blood groups in a situation when seconds count in saving a life. For this reason, informing them about the importance of knowing blood groups is a vital matter.

For our research, we started from the hypothesis according to which, within operational projects (and

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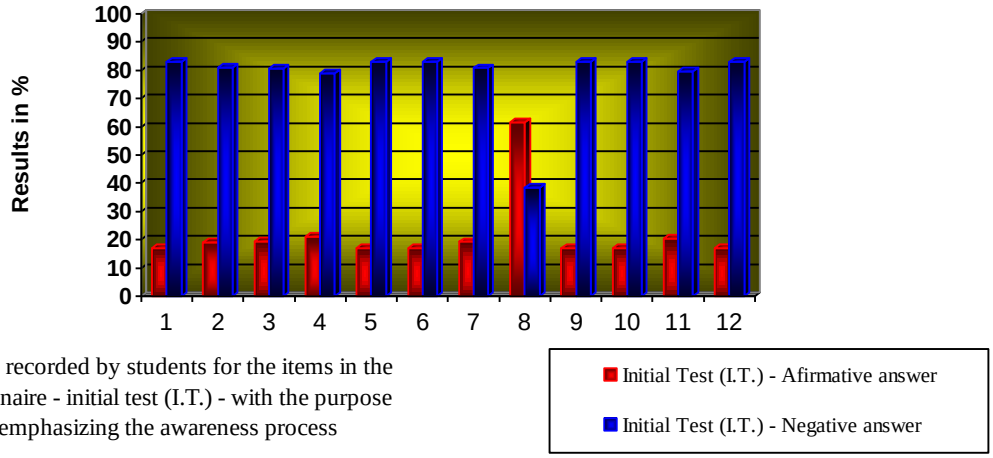
here we refer to a didactic scenario), we would anticipate and prepare messages referring to these aspects, having as a result, in our opinion, a positive modification for the students' capacity of receiving with a visible increase in efficiency fact that represents a gain both for society, and for us – authors.

This aspect proven by us through this article, namely through the modification of percentages, regarding people interested about their physical status, represents a positive signal. If for the initial test (I.T.) we only recorded 66 students who knew about their blood group, after the information campaign, promoted all along a university year cycle, during Physical Education lessons, we could observe a positive effect.

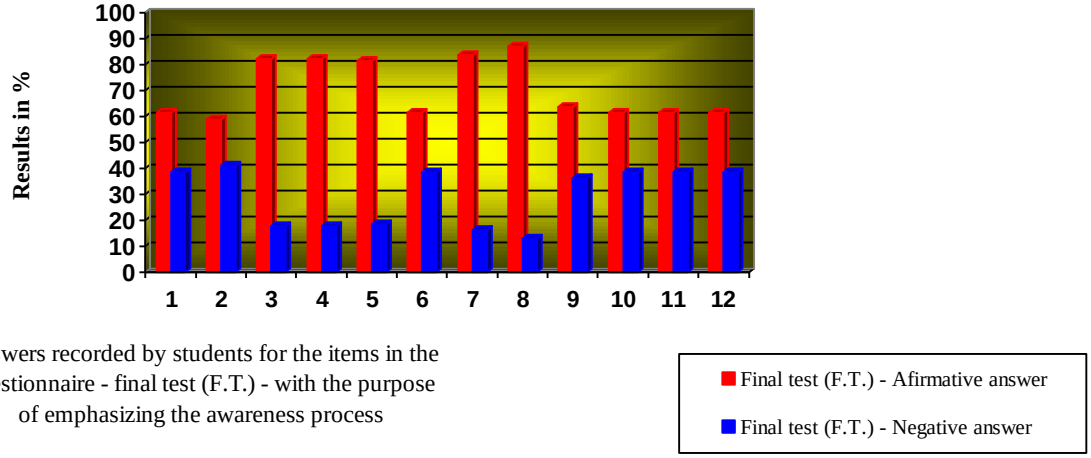
After the final test (F.T.), the number of subjects who knew their blood group rose to 240 students (61.53%) from the total. The same proportional increase was recorded for items number 9, 10, 11, and 12, these being items which verify the truth from each statement from the questionnaire, and prove the modification of the subjects' awareness.

Thus, we confirm the research hypothesis, according to which many individuals belonging to the young population do not know their blood group because they have no information on the importance of this piece of information, as a decisive factor in saving a life, being useful in unpredicted situations, or in case of accidents, this being a leak of the educational system, which should be repaired starting, probably, with parents.

As a consequence of the continuous process of making this subject public, the students' mentality and attitude changed, and they became encouraged to access research laboratories, specialised in providing information about blood groups, fact which may be verified, after the final test (F.T.), from the percentage increase, recorded in Table 1, and in Graphs 1 and 2.



Graph 1 - Emphasize of the differences regarding results of the analysis for each individual's awareness of the importance for knowing blood groups - parallel presentation for (I.T.)



Graph 2 - Emphasize of the differences regarding results for each individual's awareness of the importance for knowing blood groups - parallel presentation for (F.T.)

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It is important to mention that Graphs 1 and 2 represent both positive (YES) and negative (NO) answers, marked for the corresponding items from the implemented questionnaire, namely items 1-12 from the two graphs. We would also want to emphasize that we discovered another interesting subject in our research, regarding the spread of blood groups, after their frequency of repartition. We observed that, for the researched group of students, during Physical Education lessons, that only 66 of 390 subjects knew what blood group they had, at the initial test, meaning a proportion of 16.93%. After the final test, we recorded a percentage of 61.53%, namely 240 individuals – 75 of them had blood group 0 (31.25 %), 80 subjects had blood group A (33.3 %), 35 had blood group B (14.59 %), and the rest of 50 subjects had blood group ABIV (20.82 %), according to the data from Table 2.

Table 2 Repartition on blood groups of the studied individuals and a comparative presentation with the repartition amongst the Romanian population

Blood groups								
Blood group	**0**		**A**		**B**		**AB**	
Studied individuals/ 240 students	No. of people 75	% recorded 31.25 %	No. of people 80	% recorded 33.3 %	No. of people 35	% recorded 14.59 %	No. of people 50	% recorded 20.82 %
Romanian population in %	33%		43%		16%		8%	
Differences of % for the two types of population	1.75%		9.7%		1.41%		12.82	

If we were to compare our findings with the data recorded in the article *Repartition on blood groups of the Romanian population* (www.health.com/de.../distribution-the-blood-group-in-romania.), we would observe that the reports with the proportion of a blood group are different, that a modification occurred for proportions related to the spread of some blood groups. The percentage report for the studied group having 0 and A blood groups, have a proportional spread close to the one described both on Wikipedia and on the quoted online page mentioned above, "the ABIV blood group has an increasing rate of proportions with almost 12.82% higher, as compared to the existent data. Is there a modification at the genetic level for the young population?! Is there an adaptive preparation for a new generation?! These are highly debated questions, left to be answered by specialists."

As we inherit the eye colour from our parents, in the same extend we inherit our blood group from them, but if there are changes in our genetic code that is a dilemma that only geneticists can solve. We are just pulling an alarm signal for what happens to the young generation regarding their blood groups and the absence of the latter from the personal file of patients.

Information on indicators related to both life and health problems, such as blood groups, can offer young people the chance to overcome any problems or delays in case of accidents or unforeseen events, when seconds count in saving a life.

Conclusions

- Blood groups represent a feature inherited from our parents, which determines compatibility with others, in case of a blood transfusion, and the Physical Education lesson could be a launching pad for the transmission of information concerning this subject to students;
- Presenting this piece of information, regarding blood groups, is a vital factor in saving lives.
- Many individuals belonging to the young population do not know their blood group because they have no information on the importance of this piece of information, and on the implications it may bring in case of accidents or unpredicted situations, this being the reason for which we had, for the initial test, a number of only 66 students who knew their blood group;
- A systematic use of the first and last part of the lesson with the purpose of informing students was a method of raising awareness of the young population, with a positive influence in modifying their mentality about the lesson, but also represented a manner of

education for health, in parallel with a raise of their interest for physical activities.

- The final test proves the statement above, through the increase of the number of people who know their blood group, from 66 to 240 students, which took us very close to the research hypothesis, according to which many individuals belonging to the young population do not know their blood group because they have no information on the importance of this piece of information, and on the implications it may bring (accidents, etc.);
- The subject discussed in this article is a challenge for specialists, but may be perfected and completed, especially in the section concerning indicators that measure health problems, Physical Education, and life.

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DECEREMENT OF SERUM LEPTIN LEVELS INDUCED BY RESISTANCE TRAINING IN SEDENTARY OVERWEIGHT WOMEN

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Abstract

Purpose. Leptin is a regulator of energy intake and exercise training is an increase factor of energy expenditure. Association of these factors can be new view in prevention and control of obesity.

Methods. The purpose of this quasi-experimental study was too determined of the effect of incremental resistance training on serum Leptin levels, %BF, BMI, and WHR in sedentary, overweight females (n=25). Training program (%60-95 of 1-RM) was performed for 12 weeks, 3 days and 90 min. Within groups comparisons of means were done by used a two-tailed paired samples t test ($P \leq 0.05$).

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Results. Incremental resistance training was reduced body fat percent and serum Leptin levels in sedentary, overweight females.
Conclusions. Therefore, Leptin changes by resistance training are related to body fat reduction.
Key words: Leptin, resistance training, body fat, obesity, exercises.

Introduction

The World Health Organization, at the beginning of the third millennium, was warned the obesity epidemic in the world. Prevention, control and treatment of obesity are designed based on two principles; reduce energy intake and increase energy expenditure (World Health Organization, 2000).

Leptin is a protein hormone that produced and secreted by adipose tissue. The effects of Leptin on the brain are regulating appetite, weight control and some metabolic processes. Leptin dysfunction caused disturbance in energy intake, increased fat mass and obesity.

Serum Leptin levels have a strong positive correlation with fat mass and body mass index. Serum Leptin levels in women are higher than men (Bouassida, Zalleg, Bouassida, 2006; Meier, Gressner, 2004); But when the ratio of body fat measured, the Leptin levels in women and men are equal (Bouassida, Zalleg, Bouassida, 2006; Farah, Cyndy, 2000). A significant increase in energy expenditure (>800 kcal) by exercise training can cause a significant decrease in Leptin concentrations. Leptin is a regulator of energy intake and exercise training is an increaser factor of energy expenditure. Understanding of correlation of these factors can be new view in prevention and control of obesity (Bouassida, Zalleg, 2006).

Weltman, 2000, found that 30 minutes training at different severity and energy costs (from 150 ± 11 to 529 ± 45 kcal) in 7 healthy young men, could regulate Leptin levels during exercise and recovery. Torjman (1999) found that serum Leptin concentrations after 60 minutes treadmill exercise at 50% maximum oxygen consumption in 6 healthy men did not changed and exercise training has no effect on Leptin concentrations.

Landt, 1997, found that non-significant decrease (%8) in fasting Leptin concentrations after two hours exercise at stationary bike in 12 men.

The researchers suggested that moderate exercise training is associated with reduced Leptin. The researchers reported no significant changes in Leptin concentrations were observed (Zoladz, et al. 2005).

Kramer in 2002 stated that short-term exercise (60 minutes <) and training with less than 800 kcal of energy expenditure, cannot change Leptin concentrations.

Reductions recorded in these studies, possibly due to circadian rhythm of Leptin. Essig (2002) reported Leptin concentrations decrease after two hours running on treadmill in each exercise test (800 and 1500 kcal). Miller (2001) stated that the running for 60 minutes at 70% maximum oxygen consumption significantly decreased Leptin concentration;

immediately after exercise, 24 and 48 hours of recovery period. Kramer (1999a) stated that 30 minutes of exercise at 80% maximum oxygen consumption was associated with decreased Leptin concentrations in postmenopausal women (with and without hormone therapy).

Leptin concentrations were measured after 50 sets of resistance training (114.38 ± 855.42 kcal of energy expenditure). Serum Leptin concentrations were lower than control groups at 9, 12 and 13 hours after exercise (Meier, Gressner, 2004). Serum Leptin concentrations significantly decreased in the 30-minute recovery period after exercise compared with baseline values (Zafeiridis, Smilios, Considine, 2003).

The effects of exercise training duration on Leptin concentrations were studied. These studies represent a short duration of exercise (12 weeks >) has no effect on Leptin concentrations, but prolonged exercise (Week 12 ≤) reduced levels of Leptin (Bouassida, Zalleg, Bouassida, 2006).

Humard (2000) stated that short-term aerobic exercise (60 minutes at 75% maximum oxygen consumption for 7 days) not changed Leptin concentrations in healthy middle-aged and young men.

Kramer in 2001 showed that despite the significant reduction of subcutaneous fat after 7 weeks training, Leptin levels were not changed. Kramer (1999b) showed that the 9 week training in obese middle-aged women increased maximum oxygen consumption after the training period, but no significant changes in fat mass or Leptin concentration was observed. Gomez (2002) reported reduction in blood Leptin after 3 weeks of military training.

Channel (2005a, 2005b) stated that regular exercise reduces body fat and serum Leptin levels in young male athletes (in various sports) and healthy sedentary subjects. Plasma Leptin concentrations decreased after resistance training (6 months, 3 days a week, 10 sets per exercise) were reported in 50 sedentary men and this reduction was associated with decreased of total loss of subcutaneous fat mass and body mass index (Fatouros, et al. 2005). Ishii (2001) showed reduction of blood Leptin levels after 6 weeks of aerobic training in type 2 diabetic subjects. Hickey (1997) reported Leptin concentrations decreased after 12 weeks of aerobic training in young women.

This decrease of Leptin concentrations was associated with significant changes in fat mass (Hickey, et al. 1997). Differences in Leptin circadian rhythm after a marathon running and a slight reduction in blood Leptin concentrations associated with the

energy costs of marathon running (Leal-Cerro, Garcia-Luna, Astorga, Casanueva, 1998).

Energy imbalance (estimated energy expenditure, 7000 kcal) was associated with reduced blood Leptin levels (Karamouzis, et al. 2002). The results of the close relationship between blood Leptin and energy expenditure, there will be significant. These results suggest that delayed Leptin response to exercise training can be expected to reduce energy equal or greater than 800 kcal (Bouassida, Zalleg, Bouassida, 2006).

It seems that Leptin changes by physical activity and exercise training is related to several factors. These factors include the severity and duration of exercise training, nutritional status of subjects, Leptin circadian rhythm, and the amount of caloric imbalance is caused by exercise.

Therefore, what are the effects of resistance training on serum Leptin levels in sedentary overweight females? Whether, 12 weeks incremental resistance training has the effect on serum Leptin levels in sedentary overweight females?

Methods

The purpose of this quasi-experimental study was too determined and compared of the effect of 12 weeks incremental resistance training on serum Leptin levels in sedentary, overweight females.

Twenty five subjects randomly selected from the 40 sedentary (Physical Activity Rating $\leq$ 2), overweight (30 > BMI ($kg.m^{-2}$) $\geq$ 25), volunteers (Age: 19-25 yrs.) based on a health and disease risk questionnaire and level of physical activity [based on American College of Sports Medicine (ACSM) and Physical Activity Rating (PA-R) Questionnaires].

Physical activities determined by a self-reported exercise habits questionnaire (LeMura, Duvillard, 2004; Nieman, 2003).

All volunteers underwent a medical history, physical examination, and oral-glucose-tolerance test. Medical screening excluded individuals with heart, kidney, liver, thyroid, intestinal, and pulmonary disorders or those taking medications known to affect our outcome variables.

Participants' physicians were consulted and approved the withdrawal of antihypertensive and glucose-lowering therapy for the duration of the study. Pre-intervention washout periods were determined from drug half-lives. In order to participate in the study 25 the subjects signed an informed consent form. At the onset of the study, the subjects were informed about the purpose of the study.

They were told that the results would help researchers to develop better strategies for improving methods of obesity treatments. All the subjects were informed of their rights to anonymity and confidentiality. The Institutional Review Board for Human Subjects at the university approved this study.

Previously physical activity levels were recorded with the use of the Physical Activity Rating (PA-R) Questionnaire; volunteers were deemed sedentary if their PA-R was $\leq$ 2. Subjects were required to be weight stable for $\geq$ 6 mount before study participation. This subjects randomly divided in two groups such as, Exercise (BMI: 28.02 ± 3.65; %BF: 41.36 ± 3.64; n= 15) and Control groups (BMI: 27.43 ± 1.25; %BF: 40.23 ± 3.53; n= 10).

All females in the exercise and control groups had no symptoms of cardiovascular diseases, diabetes, or hypertension; based on health/risk factors questionnaire. They had not received any special medications, hormone replacement, or supplements and did not follow any specific diet, based on health/risk factors questionnaire.

Participants were instructed to fast, consume no alcohol, or engage in physical activity for 48 h prior to blood sampling. The research study was conducted at a local indoor aerobic & weight training club in the university. The independent variable was 12 weeks incremental resistance training based on progressive overload training principal.

Training program was based on Association of Sport Sciences Guidelines and it was adjusted by subject's physical condition, gender and age. Training program was performed for 12 weeks, 3 days/week and 90 min/ days. Total time of training program divided as warming up (15 min), main training program (70 min) and cooling down (5 min) at the morning of days (10 – 11.30 am). Training program was started at 60% of One Repetition Maximum (1-RM) at the beginning week and 95% of 1-RM at last week.

Subjects eating habits and other daily physical activity in groups didn't change for 12 weeks; but eating habits and daily physical activity was controlled for two days before tests (table 1).

Dependent variables included fasting serum concentration of Leptin, Body Fat percent (%BF), Body Mass Index (BMI), and Waist to Hip Ratio (WHR) measured at beginning and the end of training program in two groups.

Fasting whole blood samples were collected from the left antecubital vein (seated position) at 7–8 AM after 9–12 hours of fasting by a certified phlebotomist and aspirated into a 5 ml evacuated tube containing sodium citrate in exercise physiology laboratory. Tube were mixed to avoid coagulation, chilled, and centrifuged at 3000 g for 20 min within one hour after sampling. The plasma fraction from tube was each transferred to two plastic vials and frozen at -70° C.

Leptin measured by ELISA from sandwich competitive method type using DRG-Diagnostica, GmbH, Germany kits. Body Fat percent estimated by three-site (Triceps, Suprailiac and/or Suprailium, and Mid-thigh) skin fold method (Jackson et al. Formula); by used a Harpenden caliper. Body mass index (BMI) calculated by used Quetelet Index (W/H^2) [body mass

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in kilograms (kg), divided by height in meters squared (m2)].

Subject's height and weight measured by used a calibrated medical Seca Bella-840 scale (Germany). Waist to Hip Ratio (WHR) was calculated by dividing the waist circumference in centimeters (cm) by hip circumference in centimeters (cm); by used an inelastic Tape Technique.

The results are presented as the Mean ± Standard Deviation (M ± SD). The normality of the distribution and homogeneity of variances tested with Shapiro-Wilk and Levene's tests respectively. Baseline values for each variable were compared between groups with the use of two-tailed independent samples t tests.

Within group's comparison were done with two tailed paired sample t-test. Between groups comparison were done with two-tailed independent sample t-test. The data were analyzed using SPSS-18 software. Significant levels in all tests were set at $P \leq 0.05$.

Table 1. Research Plan.

Table 1. Research Plan.

Days			12 Weeks Resistance Training * 3 days/ Week * 90 Min / Day												Days		
-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Diet & Exercise Controlled ●Cho:%55 ●Fat:%30 ●Pro:%15		Pre Test ● Weight ● Height ● Blood Sampling ● 3 Site Skin fold (Triceps, Suprailiac, and Mid-thigh) ● Waist & Hip circumferences ● 1-RM Test	● 4 Sets ● 12 - 15Rep ● 60 -70 %@ 1-RM ● 1 Min Rest between Sets				←1-RM retest ● 3 Sets ● 8 - 12 Rep ● 70 -85 % @ 1-RM ● 2 Min Rest between Sets				←1-RM retest ● 2 Sets ● 3 - 5 Rep ● 90 -95 % @ 1-RM ● 3 Min Rest between Sets				Diet & Exercise Controlled ●Cho:%55 ●Fat:%30 ●Pro:%15		Post Test ● Weight ● Blood Sampling ● 3 Site Skin fold (Triceps, Suprailiac, and Mid-thigh) ● Waist & Hip circumferences
● Diet & other Physical Activity Controlled			● Diet & other Physical Activity Not Controlled ● General Warm Up: 10 Min (Slow Running and Stretched Training) ● Specific Warm Up: 5 Min (ONE Set Resistance Training @ 50 % of 1-RM @ 15 Rep. ● Main Program of Resistance Training: 70 Min. 1. Leg Extension (Quadriceps Muscles) 2. Chest Press (Pectorals Major Muscles) 3. Elbow Flexion (Biceps Braches Muscles) 4. Elbow Extension (Triceps Braches Muscles) 5. Hip Abduction (Hip Abductors & Gluteus Medius Muscles) 6. Weighted Alternating Sit-up (Rectus Abdominis and Internal & External Oblique's) ● Cool Down: 5 Min (Slow Running and Stretched Training)											● Diet & other Physical Activity Controlled		

Results

IN table 2, Means ± Standard Deviation (M ± SD) of the variables and the results of statistical tests of groups are presented. Means differences of Leptin (Exercise: 15.46 ± 2.36 vs. Control: 16.90 ± 1.78 $ng.ml^{-1}$) were significant between groups in posttest.

Means differences of Leptin in pretest (16.03 ± 2.58 $ng.ml^{-1}$) and posttest (15.46 ± 2.36 $ng.ml^{-1}$) of exercise group were significant (p =0.012*).

Means differences of %BF (Exercise: 40.94 ± 3.33 vs. Control: 40.45 ± 3.83) were not significant between groups in posttest. Means differences of %BF in pretest (41.36 ± 3.64) and posttest (40.94 ± 3.33) of exercise group were significant (p = 0.036*).

Means differences of BMI (Exercise: 27.89 ± 3.54 vs. Control: 27.48 ± 1.32 $kg.m^{-2}$) were not significant between groups in posttest.

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Means differences of BMI in pretest (28.02 ± 3.65 $kg.m^{-2}$) and posttest (27.89 ± 3.54 $kg.m^{-2}$) of exercise group were not significant (p = 0.090).

Means differences of WHR (Exercise: 0.78 ± 0.052 vs. Control: 0.79 ± 0.030) were not significant between groups in posttest.

Means differences of WHR in pretest (0.78 ± 0.055) and posttest (0.78 ± 0.052) of exercise group were not significant (p = 0.141).

Table 2. Means ± Standard Deviation of the variables and the results of statistical tests in groups (P≤0.05).

Variables	Groups	Pre test	Post test	sig
Leptin ($ng.ml^{-1}$)	Exercise	16.03 ± 2.58	15.46 ± 2.36	0.012*
	Control	16.89 ± 1.96	16.90 ± 1.78	0.900
%BF	Exercise	41.36 ± 3.64	40.94 ± 3.33	0.036*
	Control	40.23 ± 3.53	40.45 ± 3.83	0.190
BMI ($kg.m^{-2}$)	Exercise	28.02 ± 3.65	27.89 ± 3.54	0.090
	Control	27.43 ± 1.25	27.48 ± 1.32	0.450
WHR	Exercise	0.78 ± 0.055	0.78 ± 0.052	0.141
	Control	0.79 ± 0.029	0.79 ± 0.030	0.170

Discussions

Physical activity and exercise training associated with Leptin reduction and energy imbalance, increased insulin sensitivity, changes in lipid metabolism and lipid concentrations and related factors (Bouassida, Zalleg, Bouassida, 2006).

Due to these reasons, it seems that Leptin changes by physical activity and exercise training is related to several factors. These factors include the intensity of exercise (moderate to severe), duration of exercise per session (≥ 60 min), duration of training period (≥ 12 week), the type of exercise (aerobic and / or resistance), nutritional status of subjects, Leptin circadian rhythm, time and amount of caloric imbalance (≥ 800 kcal) is induced by exercise.

In this study, incremental resistance training was reduced body fat percent and serum Leptin levels in exercise group and mean difference of WHR and BMI were not significant.

The results of Hickey (1997), Leal-Cerro (1998) Okazaki (1999), Kramer (1999a), Olive (2001), Ishii (2001), Gomez (2002), Zaccaria (2002), Karamouzis (2002), Essig (2002), Nindl (2002), Zafeiridis (2003), Unal (2005a and 2005b) and Fatouros (2005), indicated that the relationship between exercise training and physical activity and reducing serum concentrations of Leptin, % Fat and BMI in males and females with different age, severity and duration of exercise training and physical activity; But the results of Landt (1997), Torjman (1999), Gippini (1999), Kramer (1999b), Weltman (2000), Houmard (2000), Kramer (2002 and 2001), Bouassida (2004) and Zoladz (2005) showed Leptin responses during exercise and recovery periods is still not completely clear.

There are several reasons that can explain the behavior of Leptin to physical activity and / or exercise training; such as reduction of fat mass and the concentration of hormones (insulin, cortisol, growth hormone, catecholamine, testosterone, etc.) and metabolites (free fatty acids, lactic acid, high triglyceride, etc.) have a decisive role in energy consumption (Bouassida, Zalleg, Bouassida, 2006).

Conclusions

Therefore, incremental resistance training was reduced body fat percent and serum Leptin levels in sedentary, overweight females. Due to these reasons, it seems that Leptin changes by incremental resistance training are related to body fat percent reduction.

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DEVELOPMENT OF PSYCHOLOGICAL SKILLS FOR SUCCESS IN VAULT TABLE

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Abstract:
Purpose. Numerous coaches and athletes maintain that the ability to reach optimal sport performance is 90 percent mental. The main purpose of this study was to examine the effects of mental training on psychological skills and performance levels of vault table.
Methods. Forty female students were randomly allocated to receive either a 10-week intervention of mental training (n = 20) and a control group receiving 10-week of normal training only (n = 20). Psychological Skills scale for Bull, Albinson, Shambrook, (1996) , physical abilities and performance level of vault table were measured pre and after the intervention program .
Results. The results revealed that all psychological skill variables, coordination, flexibility, muscular endurance and performance level of vault table was significantly higher in the experimental group compared with the control group. There were no significant differences for leg power and speed between the two groups.
Conclusion. Finally, 4 mental training sessions for 10 weeks, resulted an increased of Psychological Skills and Success in the Vault Table.
Key words: mental training, psychological skills.

Introduction

The progress of nations is the style of thinking and not products of civilization Foreign and we work thought and mind so that we can get to the desired end, and has reached the level of performance in gymnastics developed countries athlete in recent years to the point of extreme performance outstanding in all aspects, physical, technical and psychological and mental due to results of studies and scientific research and development of scientific instruments and tools assistance and scientific methods in training players, and that access players to the highest level can be achieved only through the development of various abilities and skills and qualities and knowledge players are increasing their capacity to achieve the maximum level athletes .

During the recent period has seen gymnastics evolution highest global level is of activities amounting difficulties influencing overall body organs and its members to ensure consistency and integration in terms of consistency muscle growth, joint flexibility, increase balance, and change body positions in the air, and increased tolerance of some organs of the body so must Development psychological and physiological aspects beside the scientific basis for training to improve motor skills. (Aziza, 2005)

The vault is an artistic gymnastics apparatus, as well as the skill performed using that apparatus. Vaulting is also the action of performing a vault. Both male and female gymnasts perform the vault.

The Horse is device extremely difficult of the four basic groups in artistic gymnastics also features horse jumping performance one skill at a time between 6 - 8 seconds according to the type of jump, and the performance period of the jump until landing of 4. - 6. W. (Zakaria, 1996)

The horse has been blamed for several serious accidents over the years. In 1988, American Julissa Gomez was paralyzed in a vaulting accident; she died from complications from her injuries three years later. (Ahmed, & Mamdouh, 2000).During warm-up's at the 1998 Goodwill Games, Chinese gymnast Sang LAN fell and suffered paralysis from a cervical-spine injury. (Fatima, & Zeinab 2005) In a series of crashes when the horse's height was set too low (Valentin, 2011) at the 2000 Olympics, gymnasts either

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rammed into the horse's front end, or had bad landings after having problems with their hand placements during push-off. The degree of performance evaluation on a par with the rest of the gymnastics equipment that requires a range of skills in the form of inter kinetics and this attention helps the players to get to an appropriate degree .In spite of this there is a big effort dressing gown in training on a jumping horse, but it is a noticeable lack of the final grade players on this machine in the world championships and courses Olympic. The skill front somersault on the hands on a horse jumping skills Important, which represents the degree of difficulty especially among college students due to lack of availability of certain physical abilities for this skill has a large number of students which requires a period sufficient number so that during boot to this skill better physically - Skills and technically even managed student performance skill as the artistic right to achieve a high degree on the device.

To focus attention of the mental processes and psychic activity which is carried out by appropriate force to stimuli associated with one type of activity of certain parts of the brain where you these parts jamming parts is focusing and leads to distracting, and focus attention part irreplaceable in training, so you should always focus the attention of sports by the continuous selection of the target is clear for certain duties. (Nahed, 1997).Through teacher researcher Article gymnastics altogether to note the low level of performance students on a horse jumping, although the performance it requires skill and only one, as the performance of the jump does not take more than seconds and this decline affects the total scores student in substance gymnastics, which may be due to the lack of interest in the implementation of the lessons of gymnastics to focus on the development of mental activity and mental processes next to the development and improvement of the physical attributes for your horse jumping.The researcher felt that the development of psychic activity and mental processes next to the development and improvement of physical attributes and for your horse jumping is one of the most important factors that influence the level of the students in order to reach a better level of performance on an important organ of gymnastics. Thus, the main purpose of this study was to examine the effects of mental training on psychological skills and performance levels of vault table.

Methods

This study was conducted to deliberate random sample of third year students at the Faculty of Physical Education for Girls in Cairo, has been selected researcher for the third row for the following reasons:

- The researcher taught to members of this sample, making it easier to collect a sample search.
- That skill front somersault on the hands on a jumping horse of the basic modern skills and planned for this band.
- And includes sample (45) students then selected randomly from among third year students based researcher taught them and then were selected (20) demanded of them randomly as the experimental group and (20) as control student and after excluding
- Absent a lot of students during the application of the program and their number demanded
- Practicing gymnastics of the two groups and their number two students.
- Female survivors of the back and the number one and only.

Thus becoming the research sample (40) female student.To ensure the occurrence of the same search under the curve equinoctial, the researcher conducted homogeneity between members of the same research and to achieve parity for the two sets of research (experimental and control), the researcher also finds significant differences between the two groups in the tribal measurement of the following variables

- Age, height and weight Variables.
- Psychological variables.
- Physical variables of (muscle power of two men - the ability muscular arms - speed - flexible shoulders - flexible back - Compatibility - muscular endurance.
- The skill level of performance (skill front somersault on the hands on a horse jumping.

Tools

The researcher used tools, and the following tests to collect data for research are as follows- :

Hardware

- A device for measuring the height (in centimeters)
- Balance to measure the weight of medical (KGS)
- Fund PBX.
- A trampoline.
- A horse jumping.
- Ground movements.
- Peace Wall.

Gadgets

- Stopwatch to calculate the time.
- A wooden ruler length 100 cm.
- Chalk, magnesium carbonate diluted (Manezia(
- Adhesive strips for installation.
- Mattresses for training at different elevations.
- Forms (for the application of psychometric)
- Tests and measurements used.

Physical tests

After a poll of experts to identify the most suitable tests that measure physical skill variables under Attachment (1), and then determine the following tests

- Vertical jump test for sergeant - to measure the ability of muscle men
- Medical test pushes the ball from stand to measure the ability of muscle to arms
- Test runs 15 meters for measuring speed
- Test (pressing shoulders with a stick) to measure the flexibility of the shoulders
- Test trunk raised up a lie to measure the flexibility of the back
- Test rope to measure the compatibility
- Leaning testing lie stand to measure muscular endurance

Skill tests

Measuring the level of performance skills for the skill in question :

Ways to assess the level of performance on the vault in the skill of Somersault front of the hands using jury by 4 umpires and head of the (faculty members were selected so that the degree of teacher at least), each one of them is given a degree of student, and you major umpires write off top class and lower class is calculated from an average Class The class was divided into phases jumping which students were assessed on the basis of which are as follows:

Psychological Skills Scale. The researcher used measure of psychological skills and designed by Stefan, et al. and was prepared to image Arabian by (M. Allawi, 1996) this measure contains 24 words divided on six dimensions (the ability to perception - the ability to relax - the ability to focus attention - the ability to face anxiety - self-confidence - sports achievement motivation) and all after thereunder four phrases The Screened answer phrases scale hexagonal staging (Applies to a very large extent - significantly - moderately - a lower degree - a very small degree - do not apply to fully)

- Statements after the ability of visualization and the figures are 1, 7, 13, and 19 are positive words in the direction of the dimension with the exception of the phrase No. 13 they take to reverse dimension.
- Statements after the ability to relax and numbers 2, 8, 14, 20 are positive words in the direction of the dimension with the exception of the phrase No. 8 is reversed dimension.
- Statements after the ability to focus attention and numbers are 3, 9, 15, 21 and all statements in the direction of the dimension.
- Phrases ability to cope with anxiety and figures of 4, 10, 16, 22 and all statements in the opposite direction dimension.
- Statements of self-confidence and numbers 5, 11, 17, 23 and ferries 5, 17 in the direction of the dimension and ferries 11, 23 in the reverse direction dimension.
- Mathematical expressions of achievement motivation and numbers 6, 12, 18, 24 and all statements in the direction of the dimension.

Surveys

The researcher conducted the survey on the same exploratory research and numbers 10 students from the research community and outside the same basic research in order to identify:

- The suitability of the same tests used for research.
- The safety and validity of the place the tools and devices used in the implementation of the program.
- Appropriate and fit the content of the module with time allotted and temporal distribution.
- Identify training loads in terms of intensity and volume and rest periods Rating loads according to their abilities during the planning of the training program proposed.
- Difficulties that may face the researcher during the application of the baseline study.
- Training assistants on how to conduct measurements.
- Conduct scientific transactions (honesty - Persistence) and verifiable.
- Transactions scientific physical and skill variables and psychological (honesty – Persistence)
- The researcher calculates indication of differences between two groups, and for a psychological skills Scale has made researchers using the application and return it to a sample search reconnaissance and an interval of 15 days from the first application, and to calculate the honesty researcher used to ratify internal consistency that has been calculating the value of the correlation coefficient between the degree of each statement The total score after and between the degree of each dimension and the total score of the scale.
- To calculate the stability of the physical and skill tests and psychological researcher has applied to the sample where the exploratory tests

and re-application of the exploratory sample and two days interval from the first application was calculated link between the two applications.

- To calculate the honesty, the researcher using the sincerity between the two groups, one characteristic (Artistic Gymnastics college teams) and their number 10 students, and the other is distinctive (exploratory sample) and their number 10 students were applying physical and skill tests them.

The mental training program**.**The training program aims proposed for training mental to develop a plan training codified to achieve specific objectives in an attempt by a researcher to reach female students to the best level for some psychological skills (muscle relaxation - the perception of mental - focus attention - the ability to face anxiety - self-confidence - achievement motivation), as well as to the best level of performance skill front somersault on the hands on a jumping horse, have been identified for the program by (10) weeks by four units a week.

Baseline study

The researcher conducting the baseline study on the experimental research sample in the first semester of the academic year 2008/2009 where the measurement was made for the two groups of tribal research experimental and control groups were

First tribal measurement.The hold tribal measurement and survey in the period 7/10/2008 to 9/10/2008 in all the selected variables under the physical and skill tests and measure mental skills.

Implementation of the proposed training program for the experimental group and the traditional approach to program the control group in the period from 12/10/2008 to 28/12/2008

The program included four daily units per week total of over (10) weeks training and daily per unit time (60) minutes

Dimensional measurement**:**After the completion of the application was a dimensional measurement of the physical and skill tests and measure mental skills on the two groups of experimental and control research in the period from 29/12/2008 to 31/12/2008.

Results.

Table (1) significant differences between the pre- tests for the two groups (experimental and control) in Age, Anthropometric - physical variables and Skill performance level (n=40)

	Variables	Control group		Experimental group		(T) Test
		Means	SD	Means	SD	
1	Age	18.47	0.52	18.27	0.46	No Sign
2	Heigh	158.68	3.04	160.20	2.91	No Sign
3	Weight	58.20	5.66	56.40	7.21	No Sign
4	Leg power	29.60	9.25	24.73	6.32	No Sign
5	Arm power	5.43	1.24	4.88	1.03	No Sign
6	Speed	2.9	0.61	3.16	0.51	No Sign
7	Shoulder flexibility	66.27	14.97	74.93	19.13	No Sign
8	Back flexibility	36.40	8.46	34.33	6.69	No Sign
9	Coordination	2.13	1.25	2.07	1.22	No Sign
10	Muscular endurance	2.67	0.62	2.53	0.64	No Sign
11	Skill performance level	1.5	0.94	1.37	1.08	No Sign

Table (1) shows no statistically significant differences ($p \leq 0.05$) Between pre- tests for the two groups (experimental and control) in Age, Anthropometric - physical variables and Skill performance level.

Table (2) significant differences between the pre- tests for the two groups (experimental and control) in mental scale factors (n=40)

	Factors	Control group		Experimental group		(T) Test
		Means	SD	Means	SD	
1	Mental imagery	10.4	1.55	9.8	1.37	No Sign
2	Muscular relaxing	9.67	1.29	8.93	1.39	No Sign
3	Attentional focus	7.93	1.33	8.73	1.71	No Sign
4	Anxiety coping	20.07	2.02	20.73	0.88	No Sign
5	Self- confidence	14.07	1.71	13.33	1.88	No Sign
6	Achievement motivation	7.47	1.92	7.00	1.65	No Sign
7	Scale total	69.20	4.29	71.2	4.62	No Sign

Table (2) shows no statistically significant differences ($p \leq 0.05$) Between pre- tests for the two groups (experimental and control) in mental scale factors.

Table (3) significant differences between the pre- tests and post – tests for the control group in physical variables and Skill performance level (n=20)

Variables	Pre - tests	Post - tests	Change	(T) Test

		Means	SD	Means	SD	%	
1	Leg power	29.60	9.25	35.03	8.23	18.48	Sign
2	Arm power	5.43	1.24	7.15	1.74	31.68	Sign
3	Speed	2.9	0.61	2.49	0.56	14.14	Sign
4	Shoulder flexibility	66.27	14.97	66.27	15.95	9.79	Sign
5	Back flexibility	36.40	8.46	39.93	10.45	9.69	No Sign
6	Coordination	2.13	1.25	3.2	1.01	50.23	Sign
7	Muscular endurance	2.67	0.62	3.8	1.26	42.32	Sign
8	Skill performance level	1.5	0.94	5.17	1.38	244.67	Sign

Table (3) shows statistically significant differences ($p \leq 0.05$) Between pre- tests and the Post - tests for the control group in all physical variables and Skill performance level except Back flexibility. And the improvement rate between 9.69% to 244.67%.

Table (4) significant differences between the pre- tests and post – tests for the control group in mental scale factors (n=20)

	Factors	Pre - tests		Post - tests		Change %	(T) Test
		Means	SD	Means	SD		
1	Mental imagery	10.4	1.55	12.2	1.97	17.31	Sign
2	Muscular relaxing	9.67	1.29	11.53	2.13	19.23	Sign
3	Attentional focus	7.93	1.33	10.13	1.3	27.74	Sign
4	Anxiety coping	20.07	2.02	15.73	1.94	21.62	Sign
5	Self- confidence	14.07	1.71	15.33	1.49	8.96	Sign
6	Achievement motivation	7.47	1.92	12.07	1.58	61.58	Sign
7	Scale total	69.20	4.29	75.93	5.79	9.08	Sign

Table (4) shows statistically significant differences ($p \leq 0.05$) Between pre- tests and the Post - tests for the control group in all mental scale factors. And the improvement rate between 8.96% to 61.85%.

Table (5) significant differences between the pre- tests and post – tests for the experimental group in physical variables and Skill performance level (n=20)

	Variables	Pre - tests		Post - tests		Change %	(T) Test
		Means	SD	Means	SD		
1	Leg power	24.73	6.32	41.20	8.69	66.88	Sign
2	Arm power	4.88	1.03	9.5	1.52	94.67	Sign
3	Speed	3.16	0.51	2.13	0.41	32.59	Sign
4	Shoulder flexibility	74.93	19.13	48.40	17.22	35.41	Sign
5	Back flexibility	34.33	6.69	50.20	8.01	46.23	No Sign
6	Coordination	2.07	1.22	4.13	1.25	99.52	Sign
7	Muscular endurance	2.53	0.64	5.00	0.85	97.63	Sign
8	Skill performance level	1.37	1.08	6.53	1.51	377.64	Sign

Table (5) shows statistically significant differences ($p \leq 0.05$) Between pre- tests and the Post - tests for the experimental group in all physical variables and Skill performance level . And the improvement rate between 32.59% to 377.64%.

Table (6) significant differences between the pre- tests and post – tests for the experimental group in mental scale factors (n=20)

	Factors	Pre - tests		Post - tests		Change %	(T) Test
		Means	SD	Means	SD		
1	Mental imagery	9.8	1.37	18.67	1.54	90.51	Sign
2	Muscular relaxing	8.93	1.39	15.00	2.8	67.97	Sign
3	Attentional focus	8.73	1.71	16.4	3.85	87.86	Sign
4	Anxiety coping	20.73	0.88	10.27	3.13	50.46	Sign
5	Self- confidence	13.33	1.88	16.67	1.05	25.06	Sign
6	Achievement motivation	7.00	1.65	13.80	2.37	97.14	Sign
7	Scale total	71.2	4.62	88.47	6.05	27.66	Sign

Table (6) shows statistically significant differences ($p \leq 0.05$) Between pre- tests and the Post - tests for the experimental group in all mental scale factors. And the improvement rate between 25.06% to 97.14%.

Table (7) significant differences between the post- tests for the two groups (experimental and control) in Age, Anthropometric - physical variables and Skill performance level (n=40)

	Variables	Control group		Experimental group		(T) Test
		Means	SD	Means	SD	
1	Leg power	35.03	8.23	41.20	8.69	No Sign
2	Arm power	7.15	1.74	9.5	1.52	Sign

3	Speed	2.49	0.56	2.13	0.41	No Sign
4	Shoulder flexibility	66.27	15.95	48.40	17.22	Sign
5	Back flexibility	39.93	10.45	50.20	8.01	Sign
6	Coordination	3.2	1.01	4.13	1.25	Sign
7	Muscular endurance	3.8	1.26	5.00	0.85	Sign
8	Skill performance level	5.17	1.38	6.53	1.51	Sign

Table (7) shows statistically significant differences (p≤0. 05) Between post- tests for the two groups (experimental and control) in all physical variables and Skill performance level except two variables (Leg power and speed).

Table (8) significant differences between the post- tests for the two groups (experimental and control) in mental scale factors (n=40)

	Factors	Control group		Experimental group		(T) Test
		Means	SD	Means	SD	
1	Mental imagery	12.2	1.97	18.67	1.54	Sign
2	Muscular relaxing	11.53	2.13	15.00	2.8	Sign
3	Attentional focus	10.13	1.3	16.4	3.85	Sign
4	Anxiety coping	15.73	1.94	10.27	3.13	Sign
5	Self- confidence	15.33	1.49	16.67	1.05	Sign
6	Achievement motivation	12.07	1.58	13.80	2.37	Sign
7	Scale total	75.93	5.79	88.47	6.05	Sign

Table (8) shows statistically significant differences (p≤0. 05) Between post- tests for the two groups (experimental and control) in all mental scale factors in the experimental group.

Discussion

According to the results , the researcher attributed these differences that have occurred in the experimental group to expose her to the mental training proposal and incorporates it exercises to relax, and to achieve relaxation had an impact in reducing tension resulting activation the jobs perception mental relevant performance skill as well as develop the ability to predict with greater emphasis and economy of effort These results are consistent with the results of both (Lamirand, & Rainey 1994), (M. Mohamed, 2000), and (Ahmed, & Mamdouh, 2000) of the mental training leads impact positively on the level of the ability to relax and reduce anxiety and access to tension best to help them in the process of training the focus and attention, This results agree with (R. Osama, 1994) that indicated the relax leads to a reduction in the impact of the stress response and help reach a low level of tension to the point of relaxation .The researcher revealed this results and progress, which suffered experimental group to the training program mental proposed to try to improve these dimensional and integrated manner so as to progress the process of mental perception and mental skill Somersault front of the horse jumping to be performed and that's what made clear results experimental group, which had been the training program the actual proposal and agree Results of this research with the results of both (Zakaria, 1996), (Mohamed, 1992) (Robert, et al. 1994)in the mental visualization have a positive impact and effectively in the development of motor skill performance level.And also pointed (Osama, 1995) that the importance of the development of the player to focus attention toward variables associated with performance sports allow the realization of psychic energy optimal that help to create the strength of physical, emotional and mental growth better and can sports to avoid negative thoughts that are a major source of concern.It is clear from the past table there were statistically significant differences between pre and post measurements of the control group in special physical variables and the level of performance of the skill front somersault on the hands on a jumping horse for the post measurement It is clear from above Tables that the rate of change between two measurements pre and post the control group in the psychological variables ranged between (8.96%, 61.58%) Any that the percentage change was weak for the control group and attributed researcher to the impact of the traditional program used with the control group, which lacks inclusiveness and balance between development and mental skills, which have had the greatest impact in the development of the level of performance of front somersault on the hands on a jumping horse, and was lacking this group of self-confidence and Ointabhm anxiety and tension, which is reflected in the level of performance compared to the experimental group**.**And consistent results of this study with the study of (Zakaria, 1996) (Salahuddin, 1997) (Iman, 2000), (Ahmed,. Mamdouh, 2000), (Mohamed, 2000), (Fatima, Zeinab 2005) has indicated the results of these Studies for the effectiveness of mental training program to develop the skill level of performance which could lead to improved results to perform kidney player in the training process**.**These results are in with what Mohammed Allawi that training relaxing is one of the successful means to adjust and modify the physical and psychological player which leads with the players who are characterized by varying high or low tension to the possibility to influence the level of Tencithm and equip them with tension optimized for each of them .

(Shamon, 1996).The results of this study agree with the results of the study both Samerzuelkz Summers, quirks that the mental training program works to develop the level of performance of the gymnasts (Martin, & Hall, 1995) **,**and the study (Nahed, 1997) in that mental training is effective for improving the ability to focus attention and the ability to relax and develop and improve the skills of your land movements and this is achieved hypothesis II, which stipulates that statistically significant differences between the experimental and control groups in the measurement dimensional Mental Skills (muscle relaxation - mental visualization - focused attention - the ability to cope with anxiety - self-confidence - achievement motivation) and the level of performance (Skill front somersault on the hands on a horse jumping)

Conclusion

Finally, 4 mental training sessions for 10 weeks, resulted an increased of Psychological Skills and Success in the Vault Table.

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STUDY REGARDING THE PRACTICING OF SWIMMING AS A LEISURE TIME ACTIVITY-INDICATOR OF THE QUALITY OF LIFE

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Abstract
It is known that free time is the individual's ability to organize time in the most efficient way, so to be more productive in the activities proposed.
The purpose of this study is to highlight the relationship between free time and the practicing swimming, as a leisure activity with the adult population.
Material and method: The present study is based on a questionnaire survey concerning the practice of swimming as leisure activity among adults.
The results highlighted that 81% of the subjects in the study practice swimming for pleasure, and only 19% for health reasons.
The conclusions of the study allow us to argue that swimming is one of the benefic means of spending their free time, an indicator of the quality of life among active population.
Key words: swimming, free time,quality of life.

Introduction

The quality of life is a concept that began to be studied and be taken into account since 1946 when, in the Preamble to the Constitution of the World Health Organization (WHO), health was being defined as follows: "Health is a state of complete physical, mental and social well-being, which is not limited to the absence of disease or to infirmity "(WHO 1946, 2006).

A recent study by the University of Carolina shows that swimming can really help us live longer. The study observed more than 40,000 men over a period of 32 years and shows that swimming reduces, in men, the risk of dying by 50%, as opposed to those who practice jogging, walking or to the sedentary ones (Blaire 2008).

In our country, official statistics claim that currently over 40% of the population suffers from a severe or mild obesity. But what worries us is that even the World Health Organization statistics, evokes our country to rank first in Europe in terms of cardiovascular mortality due to over-weight.

Today the quality of life is an evaluative concept, being the resultant of the reporting of the living conditions and activities, that make up human life to needs, values, human aspirations, which refers both to the overall evaluation of life and to the evaluation of the different conditions or areas of life (environment, working conditions, interpersonal relationships, family life, etc.).

According to the 3rd European Quality Of Life Survey, more than one in every eight (13%) adults living in the European Union report having felt downhearted and depressed more than half of the time in the previous two weeks (EQLS, 2012, p.118).

Recreational water activities can have substantial benefits to health and well-being. Swimming pools, beaches, lakes, rivers and spas provide environments for rest and relaxation, physical activity, exercise, pleasure and fun (WHO, 2003).

In this paper we join those who believe that free time is time dedicated to oneself after the completion of professional, domestic activities as well as after the passive rest. Thus time used on free choice is the free time that remains after the bio-socio-cultural activities strictly necessary, such as socialization, enculturation, documentation, care for children and elderly people in our lives, etc. (Păunescu, 2010).

In this study we proceeded from the premise that recreational sport is a form of beneficial use of free time which brings benefits in all areas of personality development.

Material and method

2.1. Questionnaire regarding the practicing of swimming during leisure time

The present study was based on questionnaire survey. The developed questionnaire comprised 10 items regarding:

- leisure time size among subjects enrolled in the study;
- practicing sports during leisure time;
- practicing swimming during leisure time.

The questionnaire included simple, clear and precise questions, thus the responses were prompt and the information received had a high verisimilitude character.

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2.2. The subjects of the study

The questionnaire was applied to a total of 78 subjects aged between 20 and 64, 76% male and 24% female. The study was conducted in accordance with the Declaration of Helsinki on ethical principles for research involving human subjects. Under anonymity reserve, subjects gave their consent on the use of data in their study for publication in the present work or in related publications.

Results

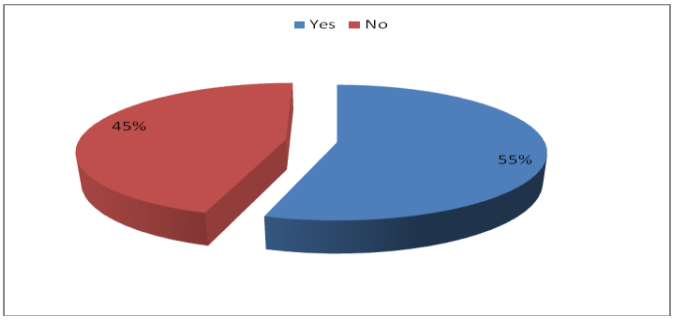

Figure 1. The share of those who declared they have free time

From Figure 1 we can see that there are not significant differences on the size of leisure time among the subjects enrolled in the study, 55% of them saying that they have free time.

The indicator 'What types of activities do you prefer for your leisure time?' revealed that 50% of the subjects of the study prefer physical activity, 11% activities of personal care, 7%household activities, while 32% prefer other activities (see Figure 2)

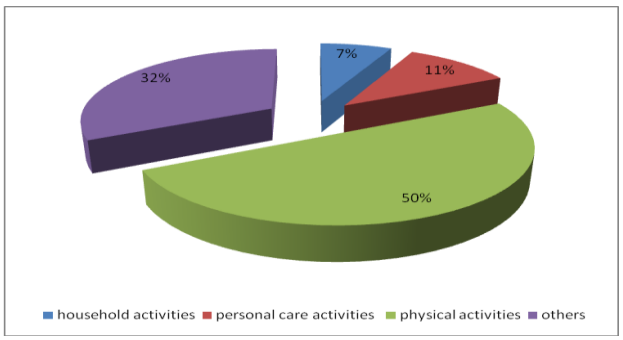

Figure 2. The share of leisure activities

In terms of practicing sports during leisure time, 82% of the subjects in the study said they spend their free time practicing sports (see figure 3).

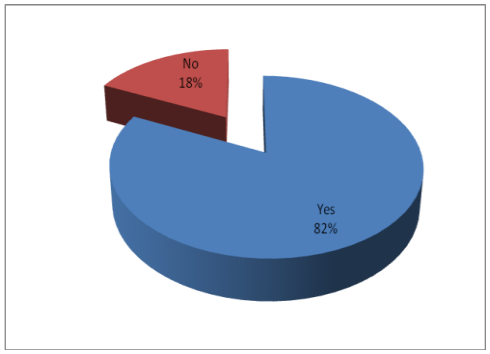

Figure 3**.** The share of sport practicing by the study respondents during free time

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It does not seem so surprising that a large percent of the survey respondents practice sport during the free time, because we have to mention that most of the study subjects are part of the group aged between 20-30 years old, the period of extended adolescence which makes the transition to adulthood.

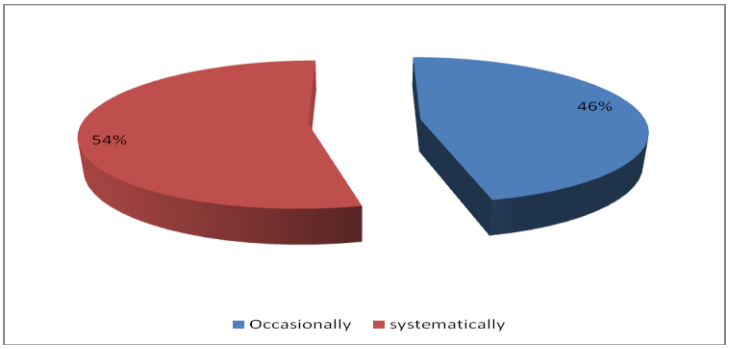

Figure 4. The share of practicing sports during free time

From Figure No.4. we can see that 54% of the respondents occasionally practice sport as a leisure activity and only 46% consistently. 46% of these, said they practice recreation sport as leisure with a frequency of 3 times per week, 39% of them 4 times per week and only 15% of them 2 times per week (Figure 5).

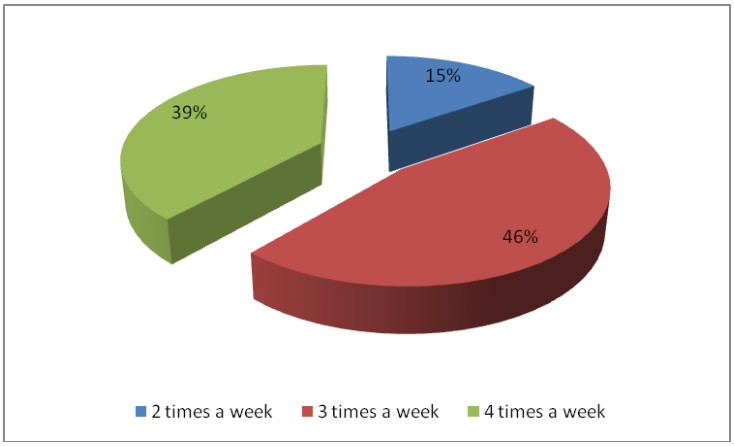

Figure 5. The share of practicing recreational sport

The items on practicing swimming have revealed that 83% (of those who practice recreational sports) argue that swimming is among their preferences, and only 17% do not prefer swimming as a leisure sport.

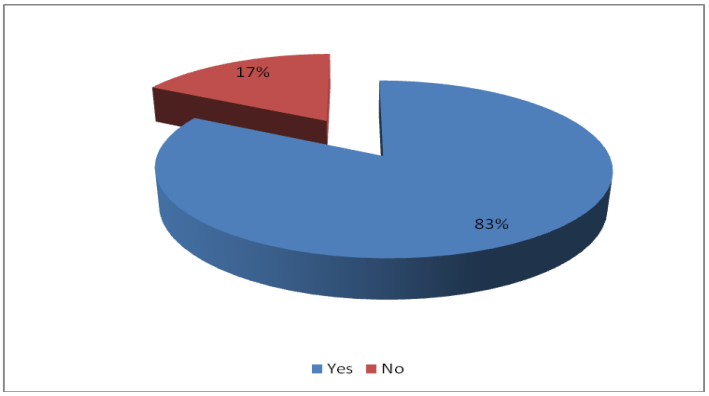

Figure 6. The share of practicing recreational sport

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Most of them practice swimming 2 times per week (52%), 20% - 3 times per week, 26% -4 times a week, and only 12% more than 5 times a week.

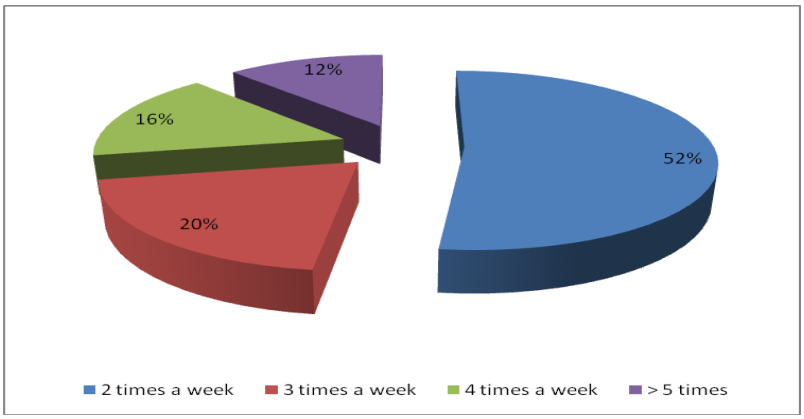

Figure 7. Ways of practicing swimming

The reasons for practicing swimming as a leisure sport are varied, most subjects said they practice swimming for pleasure (81%) and only 19% for health reasons, as a means of kinesiotherapy.

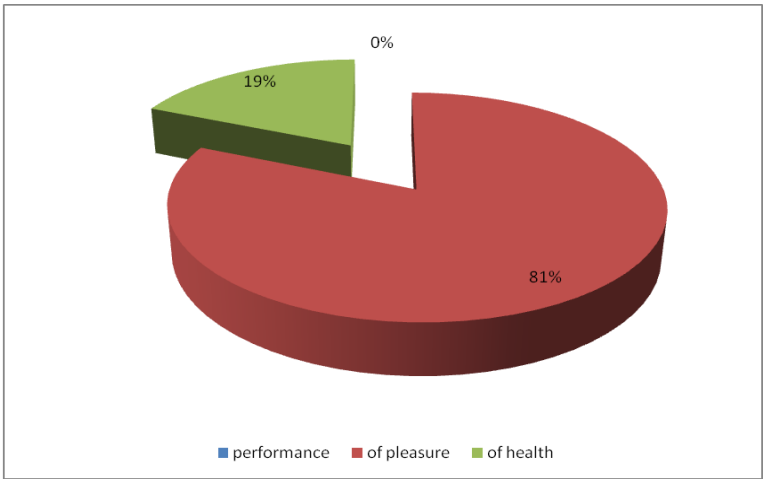

Figure 8. Reasons for practicing swimming as a leisure sport

Discussions

Today recreational sport is competing with computer activities, the cultural entertainment , with various hobbies. Regarding the effects of practicing different sports on ECG parameters, Venckunas et al. (2008) support the notion that regular exercise training induces cardiac hypertrophy that may be manifested by the LV wall thickening and cavity dilation in young athletes. According to American Heart Association recommends 30-minutes of moderate activity, but three 10-minute periods of activity are almost as beneficial to your overall fitness as one 30-minute session. As shown in past research in USA, swimming is the fourth most popular sports activity and a good way to get regular aerobic physical activity (US Census Bureau, 2012).

The results of the present study revealed that over 80% of the study subjects practice recreational sport within the time available, and out of these a considerable proportion (83%) said that swimming is among the choices of spending the leisure time. It is also noted that young adults (20-30 years old) are the age group that is the most active physically. If we refer to the sports leisure one of its structuring trends in this period is represented by the search for ways of organizing it as less formal and restrictive as possible, targeting the social relations sphere that satisfy the social affiliation needs.

Conclusions

What draws the attention to the present study is that swimming is preferred as leisure activity for pleasure by most of the subjects (81%) and not for health (19%) and performance (0%).The results of this study aligns to the official statistics from the developed countries where swimming is one of the most popular leisure sports - indicator of the quality of life among active population. Meanwhile, swimming is and can be practiced as a means of kinesiotherapy in the recovery of various medical illnesses.

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THE EFFECTS OF EIGHT-WEEK STEP-AEROBIC EXERCISE PROGRAMS ON FLEXIBILITY AND BODY COMPOSITION OF SEDENTARY WOMEN

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Abstract

Purpose. The aim of this study is to investigate the effects of eight-week step-aerobic exercise programs on flexibility, body weight, body fat percentage and body circumference measurements of sedentary women.

Methods. 20 sedentary female volunteers participated in the study. Step-aerobic exercises were applied to for every participant for 8 weeks, three days a week and 45 minutes per day.

Data were analyzed by using SPSS 17.0 software. For statistical analysis, Paired-t test was used. Significance level was determined to be 0.05.

Results. Significant differences were found between mean values of pre-and post-tests (flexibility = 3.35cm; body weight = 4.48 kg; body fat percentage = 3.39%, and the number of heart beats = 4 beats/min) ($p<0.05$).

Conclusions. As a result of the step-aerobic exercises, flexibility and all parameters related with the body composition of the individuals were changed positively. The study showed similarity with the results of other studies.

Key words. Women, step-aerobic exercise, flexibility

Introduction

Step-Aerobic is a sport consisting of stretching exercises with a tempo accompanied by music. Aerobic exercises are performed by adapting combinations of movements to music through a step platform. Research of the effects of such commonly used exercises on physical fitness parameters became more of an issue (Phrompaet, et al., 2011).

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Physical activity is quite important to prevent many diseases. Step-Aerobic and Pilates exercises help increase of muscle strength and flexibility as well as improvement of balance as a coordination motor skill (Richardson, Jull, 1995). Based on epidemiological proof, it is estimated that adults are required to perform moderate physical activities at least half an hour in the most days of the week (Bernardo, 2007).

Weight reducing programs decrease the risk of Coronary Artery Disease in women. and a sedentary life is one of the leading reasons of obesity disease caused by excessive increase of body weight. Many studies report that exercises done for a long period of time, regularly and moderately that have the characteristics of aerobic reduce bodyweight, body fat percentage and body mass index (Karacan, Çolakoglu, 2003).

Fat loss in terms the body low basal metabolizm and lack of activity is very important. This oppinion supported by Vakkonan Damar and Klent (1981) and Zorba (1999**).**The maintain an approprite level of body fat ratio is not important just a sport performance but also for health body. The heart dieseases, high blood affect,diabet and cancer for cronic dejeneration illness risk seems to be directly associated with body fat mass mentions (Zorba, 1999**).**This study has been applied to 20 sedentary women who do not apply any special nutrition program, have no health problem and do not participate in any regular exercise program. They were advised not to participate in any different exercise program during study. During eight weeks, experimental group were applied a step –aerobic program three days a week for 45 minutes by the same exerciser. Intensity of exercise has been determined as 40%-60% by Karvonen method. Body weight, resting heart rate, waist circumference, chest circumference, hip circumference (Mackenzie, 2001), body mass index, body fat percentage and lean body weight of all the subject were measured before and after the program (Carter, Health, Somatotyping, 1990), and at the end of study, pretest and posttest values of groups were compared in itself.Arithmetic means and standard deviations of all the data were calculated. Comparison of the measurement values of subjects before and after exercise program was made with paired t-test. Significance level was determined as $p<0.05 – 0.01$. At the end of study, a statistically significant decrease was seen body fat percentage, flexibility test and measurement test of anthropometric circumference in experimental group ($p< 0.05$). As a result, it could be said that eight weeks of regular. Pilates exercises are effective in reducing some cardiovascular risk factors in sedentary women.

Object

In this study, it is aimed to investigate the effects of 8-week step-aerobic exercises on flexibility, body fat percentage and circumference measures in sedentary women.

Methods

20 sedentary women whose average ages were 20.6 ± 1.7 (year) participated in study voluntarily. Participants were done step –aerobic exercise three days a week for 45 minutes during eight weeks. Obtained data were assesses in SPSS 17 paired t-test program.

Detailed information was provided related to exercises prepared in practice. TANITA body composition analyzer BC-418MA (Carter, Health, Somatotyping, 1990; Fatouros, et al., 2006) brand analysis device as used for body weight values, height, body mass index, some measures of anthropometric circumference and body fat rates of participants before and after exercise program.

Calibration control of testing tools used for measures was made before tests, and their reliability was tested.

Results

Arithmetic means, standard deviation values of 20 sedentary participant women whose average ages were 20.6 ± 1.7 (year) pertaining to their personal characteristics such as body weight, height, BMI, body fat percentage and heart rates are presented in Table 1.

Table 1. Demographic Characteristics of Participants before and after exercise program

	Variables	Mean ± Sd	T	p
Body Weight	Before	69.25 ± 10.38	-1.39	P<0.05*
	After	64.67 ± 10.29		
Height (cm)	Before	160.17 ± 1.29	0. 9	P>0.05
	After	160.21 ± 1.57		
BMI (kg/m²)	Before	26.2 ± 1.29	0.16	P>0.05
	After	24.3± 1.1		
Body Fat (%)	Before	26.21 ± 3.66	-3.17	P<0.05*
	After	22.82 ± 3.06		
The Number of Heartbeats	Before	157 ± 10	1.15	P<0.05*
	After	153 ± 7.9		

Best values and measurements before and after exercises of sportswomen who participated in study were compared with independent samples t-test. Analysis results are seen on Table 2.

Table 2. Comparison of Physical Fitness Values of participants before and after exercise program

	Variables	Mean ± Sd	t	p
Flexibility test (cm)	Before	25.3 ± 4.99	2.15	P<0.05*
	After	28.65 ± 4.85		
Chest Circumference (cm)	Before	94.4 ± 7.17	-0.803	P<0.05*
	After	92.6 ± 7.02		
Abdomen Circumference (cm)	Before	93.2 ± 9.79	-1.12	P<0.05*
	After	89.85 ± 9.17		
Waist Circumference (cm)	Before	81.00 ± 8.97	-1.04	P<0.05*
	After	78.05 ± 8.88		
Basin Circumference (cm)	Before	101.1 ± 7.29	-1.7	P<0.05*
	After	98.00 ± 7.26		
Leg Circumference (cm)	Before	55.45 ± 4.54	-1.34	P<0.05*
	After	53.55 ± 4.44		

Accordingly, measurements of sportswomen for per test before and after exercise are significantly different from each other (p<0.05).

There were significant elevation determined for the participants' flexibility test (3.35cm), chest circumference (1.8cm), abdomen circumference (3.35cm), waist circumference (2.95cm), basin circumference (3.1cm), leg circumference (1.9 cm) values before and after exercise programmes (p<0.05). Relations of different test results are presented in Table 3.

Table 3. Relations of Different Test Results	r	r^2	P value
Body fat % Body Weight (kg)	0.878**	0.77	P<0.001
Body fat % Chest circumference (cm)	0.847**	0.72	P<0.001
Body fat % Abdomen circumference (cm)	0.714**	0.51	P<0.001
Body fat % Waist circumference (cm)	0.866**	0.75	P<0.001
Body fat % Basin circumference (cm)	0.863**	0.74	P<0.001
Body fat % Leg circumference (cm)	0.726**	0.53	P<0.001
Body fat % Flexibility test (cm)	0.626**	0.39	P<0.001
Body Weight (kg) Chest circumference (cm)	0.802**	0.64	P<0.001
Body Weight (kg) Abdomen circumference (cm)	0.681**	0.46	P<0.001
Body Weight (kg) Waist circumference (cm)	0.779**	0.61	P<0.001
Body Weight (kg) Basin circumference (cm)	0.881**	0.78	P<0.001
Body Weight (kg) Flexibility test (cm)	0.771**	0.59	P<0.001
Chest circumference (cm)) Abdomen circumference (cm)	0.879**	0.77	P<0.001
Chest circumference (cm) Waist circumference (cm)	0.877**	0.77	P<0.001
Chest circumference (cm) Basin circumference (cm)	0.226**	0.05	P<0.001
Abdomen circumference (cm) Waist circumference (cm)	0.827**	0.474	P<0.001
Abdomen circumference (cm) Basin circumference (cm)	0.654**	0.43	P<0.001
Abdomen circumference (cm) Leg circumference (cm)	0.377**	0.14	P<0.001
Abdomen circumference (cm) Flexibility test (cm)	0.344**	0.11	P<0.001
Waist circumference (cm) Basin circumference (cm)	0.726**	0.53	P<0.001
Waist circumference (cm) Leg circumference (cm)	0.513**	0.26	P<0.001
Basin circumference (cm) Leg circumference (cm)	0.837**	0.70	P<0.001

Significant correlation results were obtained for the sedentary women (n=20) involved in this study (Table 3).

Positive correlations were obtained for all of the tests performed. The highest positive correlation between "body weight and basin circumference" and the lowest positive correlation between "chest circumference and basin circumference" were obtained 0.881 and 0.226, respectively ($p<0.001$).

The Pearson correlations analyses (r) yielded a significant positive correlation between the body weight (kg) and basin circumference (cm) ($r = 0.881$, $p < 0.001$), the body fat (%) and the body weight (kg) ($r = 0.878$, $p < 0.001$), the body fat (%) and the chest circumference (cm) ($r = 0.847$, $p < 0.001$), the body fat (%) and the abdomen circumference (cm) ($r = 0.714$, $p < 0.001$), the body fat (%) and waist circumference (cm) ($r = 0.866$, $p < 0.001$), the Chest circumference (cm) and the abdomen circumference (cm) ($r = 0.827$, $p < 0.001$), and the basin circumference (cm) and the best 30-m run ($r = 0.837$, $p < 0.001$). All the results are presented in Table 3.

Discussions

Sedentary lifestyle brings with a number of serious health problems. Especially in middle age and later periods, depending on the physical decline, immobility, disordered eating resulted in many illness (high blood pressure, obesity, muscular weakness, posture hand disorders, flexibility, the weakening of the abdominal muscles consist of the difficulties with the digestive and excretory systems (Babayiğit, et al., 2002).

Regular exercise helps to develop the parts related to the physical fitness. Part of the physical fitness related with health are the cardiovascular endurance, muscle strength, muscular endurance, body composition, flexibility, and nerve muscle relief (Günay, 1999).

In this study, the part of exercise program basically including Aerobic-Step exercises and generally develop of whole-body flexibility has been structured. Development of flexibility which is one of the important parameters of health-related physical fitness, following the exercise program we applied is a result of exercise program which is planned to be target-specific.

In their study, Karacan and Çolakoğlu, determined that 12-week aerobic exercise resulted in similar positive changes in body composition of middle-aged women and young women who were applied run-walk exercise program for three days a week for 30 minutes during 12 weeks, and that there have been positive changes in blood lipids mostly in favor of middle-aged women (Karacan, Filiz, 2003).

In these studies performed, it was shown that the flexibility, abdominal muscle strength and muscle activity could be developed by Pilates exercises (Phrompaet, et al., 2011).

Results of our study performed again had parallelism with literature available. In sedentary women, it's seen that significant developments were obtained in all the flexibility values (sit down-lie exercise, body, hyper-extension, body lateral flexion, tests towards included in study with 12-week exercise program.

In a randomized controlled study on reliable cases, it was seen that 8-week pilates program applied two times a week for 45 minutes developed flexibility and increases body and pelvic movement (Kloubec, 2010). It could be told that step-aerobic exercise had a positive effect on resting heart rate, pulse after a 5 minute walk, flexibility, anaerobic power, aerobic capacity, leg power, hand grip strength, body fat percentage and systolic blood pressure values (Kurt, et al., 2010).

It is aimed to investigete the effects of eight-week basic step aerobics training on pysical and motoric abilities of sedentary women aged 30-35. 15 sedentary women; aged 30-35 voluntarily paticipated in on 8 week basic step aerobic program. Age, height, weight, body fat percentage, body mass index, max V02, handgrip, systolic and disastolic blood pressure.heart rate and vertical jump parameters were measured for 8 post 8 week training programs (Kurt, et al. 2010).

According to data of Kurt, et al. (2010), no meaningfull differences were found with the max VO2, systolic and diastolic blood pressure,handgrip, heart rate and vertical jump parameters while meaningfull differences were found with the body weight, body fat percentage, body mass, index parameters at the level of $p<0.05$.As a result of the study, it was thought that decreasing body fat percentage through step aerobic trainings is important for protecting from cardiovascular risk factors.

Pepe, et al. (2010) aimed to investigate the effects of eight-week basic step aerobics training on physical andbvmotoric abilities of sedentary women aged 30-35. For this study, 15 sedentary women, aged 30-35, voluntarily participated in an 8-week basic step aerobics training of Erciyes University Continuous Education Centre (ERSEM). According to data; no meaningful differences were found with the Max VO2, Systolic and Diastolic BloodPressure, Handgrip, Heart Rate and Vertical Jump parameters, while meaningful differences were found with the Body Weight, Body Fat Percentage, Body Mass Index parameters at the level of $p<0.05$. As a result of the study, it was thought that decreasing body fat percentage through step aerobic trainings is important for protecting from cardiovascular risk factors (Pepe, et al., 2010).

Baştuğ, Akandere,Yıldız, (2011) investigated the effect of 8-week aerobic exercise program on physical self description values of women not doing exercise. 80 women not doing exercise regularly, having no special dietary program and having no health problem to prevent the application of exercise participated in the study voluntarily. An aerobic exercise program was applied to the research group for 45-55 minutes and 3 days a week at 50-60% intensity. The measurements of weight, body mass index, sub-dimensions of physical self-description scale such as appearance and self-confidence values were obtained before and after exercise. It was reported that 8-week aerobic exercise

program caused a significant decrease in body weight and body mass index values of sedentary women ($p<0.05$). It was also determined that 8-week aerobic xercise positively affected body composition and physical self-description values of sedentary women (Baştug, Akandere, Yıldız, 2011**).**

Tortop, Ön, Ögün, 2(010) also determined the effects of the some physical fitness' parameters on the young women, during 12 weeks step-aerobic exercises' program. The subjects performed step aerobic exercise three days per week and each session lasted for 60-90 min, the intensity of the heart rates was % 60-80. It was reported that significant differences were found for the values of the body weight, body mass indexes, back strength, flexibility, right and left hand grip,vertical jump and aerobic power (MaxVO2) ($p<0,01$). The body fat percentage (%) also showed significant differences level of 0,05. But leg power and anaerobic power values ($p>0,05$) didn't show significant differences statistically. According to the results, it was concluded that at the end of 12 weeks' aerobic exercises in some parameters physical fitness caused positive differences on the young women.(Tortop, Ön, Ögün, 2010**).**

In another study, Çolakoglu and Karacan (2006) studied the effects of 12 week aerobic (jog-walk) exercise program on some physical and physiological parameters in young and middle aged women.The groups were composed of the women who had not done exercise regularly, who had not followed a special diet and who did not have any health problems preventing them doing any kind of exercise. During 12 weeks, both groups participated in a jog-walk exercise program with the duration of 30 min. and 3 times per week. The results of Çolakoglu and Karacan (2006) indicated that there was a significant decrease in body weight, body mass index and rest pulse values of both groups ($p<.05$) and there was a significant increase in vertical jump, anaerobic power, aerobic power and flexbility values. Consequently, it was understood that a twelve-week aerobic exercise develops aerobic and anaerobic powers and decreases rest pulse in young and middle aged women; however, it does not cause any significant change in their blood pressures.

In another research study, Zorba et al. (2000) studied to determine the effects of step on the physical fitness of 8-week step on the physical fitness of 33-40 aged female group. Study showed that doing exercising made positive effects on the body composition significantly ($p<0.01$).

Zorba et al. (2000) studied the effects of step on the physical fitness of 8-week step on the physical fitness of 18-24 age female group. Results similar to the one obtained in Zorba et al. (2000) were also found in this study.

Imamoglu, Akyol, Bayram (2002) studied the effects of three month aerobic exercise on physical fitness, body composition and blood parameters in sedante women. According to the result of this study, three months low intensity aerobic exersices have resulted in the improvement in physical fitness and by the changes of body fat and blood parameters, it can be concluded that risk of cardiovascular problems may decrease (Imamoglu, Akyol, Bayram, 2002).

These studies have parallelism with our studies. Flexibility values of research group were measures as 25.30 ± 4.99 before exercise program and 28.65 ± 4.85 after exercise program. In many studies, it was revealed that exercises created a significant increase on flexibility (Ransdell, et al., 2004).

In our study presented, it was aimed to positively reshape body composition that is one of the health-related physical fitness parameters and to increase body flexibility.

Pilates exercises are of vital importance in respect of body awareness, body control, development of straight muscle activation, prevention of injury and sportive performance as well as development of coordination skills such as power, flexibility, strength, speed, agility (Bauman, 2004; Fatouros, et al. 2006; Otto, et al. 2004; Segal, Hein, Basford, 2004).

With the configuration of exercises in intensity and quality fit for purpose, as we expected, there have been positive developments in all the parameters in respect of body compositions of individuals and their body flexibilities have been developed ($p<0,05$). Thus, positive effects of exercise programs to develop physical fitness on body composition and body flexibility is confirmed one more time together with the results of our study.

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