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STUDIA UNIVERSITATIS BABEŞ-BOLYAI, EDUCATIO ARTIS GYMNASTICAE, LI, 1, 2006

HUMAN RESOURCES INVOLVED INTO THE MANAGEMENT OF SPORT GROUNDS

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REZUMAT. Resursele Umane Implicate în Conducerea Bazelor Sportive. Managementul activității de educație fizică şi sport situează munca de conducere în întregul sistem de organizare, administrare şi gestiune. Managementul unei baze sportive impune o pregătire specifică şi capacitate de organizare din partea coordonatorilor. Pregătirea personalului reprezintă un aspect fundamental care ar trebui să constituie obiectivul primordial al organelor competente.

The management of physical education and sport places the management activities into the system of organization, administration and control.

The management process in sport may be considered an ensemble of executive actions and thinking processes by which the manager designs, organizes, coordinates and controls the activity, aiming at obtaining the best performance. (Septimiu Florian Todea, 2003)

"Sport ground" is a synonym to "installing", "arranging" and it indicates the place where sport is practiced, as different as it may be. Sport grounds are part of the material resources of an organization. (Alexandru-Virgil Voicu, 1998)

Sport grounds can be classified according to environmental conditions where activities develop. According to this criterion, one can distinguish: outdoor sport grounds, sport rooms and indoor pools.

The management of an investment involves everything that is necessary for its administration. This way, the management involves many persons, activities and financial resources, these means being required for the correct use of a sport ground.

The management of sport grounds needs to be permanently focused on the most efficiently exploiting existing equipment as well as adapting it to the standards imposed by organisms that approve their functioning. (Ministerul Tineretului si Sportului, Centrul de Cercetari pentru Probleme de Sport, 2000)

Managing sportive grounds comprises the operations necessary at adapting the sport ground to users' needs and maintaining the efficiency standard. Managing sport grounds also involves operators, means, financing. Among operators, there are the people responsible with the usage, the management and the employees.

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The people in charge with the usage methods

The person in charge with how to use the sport ground decides upon the following:

- schedule, that is the number of hours available for every category of users. If it is about a multifunctional basis adapted for the practice of several sports, there are several stages for each;
- frequency, that is the number of hours per week reserved to every category of users;
- the time of the year when a certain type of users can use the sport ground.

The person who takes such decisions has to take into account the type of adopted management – meaning whether the sport ground is managed by a publicly or privately owned company or is adopted by a joint venture – and the objectives of the sport ground.Within a sport ground, decisions shall be taken by the very owner, who is at the same time the manager of the sport ground, or by a mandatory appointed. The manager has to comply with the provisions regarding the workers' safety and hygiene standards. If the ground is managed by a publicly-owned company, the position may be occupied by a specifically set up branch of the management.

The person in charge with managing the sport ground

The person in charge with managing the sport ground establishes its using program. They set all necessary operations for the ground to work and organizes the staff to put in practice all these operations. This way, the person in charge establishes the functioning hours, the supervision schedule, the preparation of the grounds, the cleaning program, the usual or special maintenance operations.

The person in charge also foresees management and maintenance expenses when deciding over the annual budget and keeps an account of permanent money use. They have to collaborate with the person is in charge with the usage of the sport ground, as the usage program greatly depends on the duration of the managing operations, for example, the duration of cleaning, the preparation of the grounds and maintenance.

The staff in charge with managing the sport ground

The tasks are accomplished by a more or less trained staff, whose number depends upon the extent and the importance of the ground and its destination.

The duties of the managing staff can be synthesized as follows:

1. SUPPLY – involves obtaining consumable equipment, means and services needed for the functioning of the sport ground, such as: cleaning, maintenance, electric power, water, sewerage equipment. These duties are taken by the managing staff directly controlled by the managing responsible.

2. THE FUNCTIONING OF TECHNICAL SYSTEMS – involves every operation connected to the usage and control of technical systems, such as: switching on, supervising and switching off the lighting system and the functioning of special systems (scroll boards). These services have to be done by qualified staff to which both usual and urgent maintenance jobs can be confined.

3. MAINTENANCE – involves the cleaning operations overall and hygiene and comfort keeping.

4. PREPARING – includes the preparation operations of all activity grounds overall, keeping them at their best.

5. PROTECTION – this word designs the staff who provide the appropriate usage of the sport ground and the equipment and which supervise the sport ground when it is not at use.

6. MEDICAL ASSISTANCE – involves first help granting to non-professional users, sportsmen or spectators in case of accidents that take place within the sport ground.

CONCLUSIONS

Managing a sport ground demands specific training and organizational ability from its coordinators. Training the personnel represents a fundamental aspect that should make the primordial objective of authorities in the field.

REFERENCES

Todea, S., F. – “Managementul educației fizice şi sportului”, Editura Fundației România de Mâine, București, 2003

Voicu, A.,V. – “Managemnetul organizațiilor şi activității sportive”, Editura Risoprint, Cluj-Napoca, 1998

“Managementul bazelor sportive”, Ministerul Tineretului şi Sportului, Centrul de Cercetări pentru Probleme de Sport, Bucuresti, 2000

GRIGORE BENETATO'S CONTRIBUTION TO THE DEVELOPMENT OF THE UNIVERSITY PHYSICAL EDUCATION AND SPORTS

SIMONA TACHE[1], TRAIAN BOCU[1]

REZUMAT. Contribuția lui Grigore Benetato la dezvoltarea educație fizice şi sportului universitar. Comemorarea a 100 de ani de la naşterea academicianului Grigore Benetato a oferit ocazia evocării, în cadrul unui simpozion omagial desfăşurat în cursul lunii decembrie 2005, a unei scurte prezentări biografice legate de activitatea sa didactică, ştiinţifică şi publicistică. Lucrarea scoate în evidenţă principalele preocupări în domeniul fiziologiei experimentale, valorificate atât în manuale tratate şi monografii de referinţă, comunicări ştiinţifice şi în numeroase articole publicate în reviste de prestigiu din țară şi străinătate. Ca o recunoaştere a meritelor ştiinţifice a fost ales membru al Academiei Române. Într-un capitol aparte se prezintă contribuția academicianului Grigore Benetato la dezvoltarea educației fizice şi sportului universitar, în calitate de apropiat colaborator al ilustrului profesor Iuliu Hațieganu.

Academician Grigore Benetato was commemorated in December 2005, with the occasion of 100 years since his birth.

Chronological data:

Grigore Benetato was born in Ialoveni (Basarabia) on November 18th, 1905. Between 1915-1923 he was a High School student in Chişinău. In the interval 1923-1929 he was student at the Medicine University of Cluj, and in 1929 he became doctor in medicine and surgery. In the years 1937-1958 he leaded the teaching and performed high quality scientific research in physiology at the Medicine Faculty of Cluj. Between 1958-1972 he was professor and scientific research leader in physiology at the Medicine Faculty in Bucharest. In 1955 he became member of the Romanian Academy. He dies on the June 9th, 1972 at the age of 67.

The experts that took part in his education were: I. Nițescu, I. Hațieganu, I. Moldovan, I. Minea. As professor he had as students: acad. I Baciu (Cluj), dr. doc. P. Derevenco and dr. Vera Derevenco (Cluj), prof. dr. C. Oprişiu (Cluj), prof. dr. V. Vasilescu (Bucureşti), prof. dr. doc. Marcel Uluitu (Bucureşti), dr. Wanda

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Witebscki (Cluj), dr. Gh. Ursan (Cluj), prof. dr. P. Groza (Bucureşti), prof. dr. L. Grosu (Cluj), prof. dr. L. Tămaş (Cluj), prof. dr. M. Telia (Cluj), dr. E. Neumann (Cluj), prof. dr. Viorica Miulescu (Cluj), acad. I. Haulică (Iaşi), prof. dr. A. Cojocaru (Tg. Mureş), prof. dr. B. Cuparencu (Cluj-Oradea), conf. dr. Z. Borza (Cluj), prof. dr. G. Arsenescu (Tg. Mureş), prof. dr. I. Anghel (Cluj). He was a friend of acad. Constantin Daicoviciu, prof. dr. Al. Ciplea, sculptor Romulus Ladea, poet Mihai Beniuc, prof. Raul Şorban, violonist Mihail Constantinescu, bass Constantin Ujeicu, baritone Mihai Arnăutu, painter Negoşanu, acad. Aurel Moga, Raluca Ripan, Victor Preda, and the poet Al. Căprariu.

Teaching activity

His teaching activity was divided between the Faculty of Medicine of Cluj and that of Bucharest. Between 1923-1927 he had a teaching position at the Biochemistry department, and between 1927-1931 he was assistant professor at the Physiology Department. Between 1931-1934 he was lecturer at the same department. During the period between 1934-1937 he was associated professor, and between 1937-1958 professor at the same Department, after prof. dr. I. Nițescu. Between 1958-1972 he became professor at the Physiology Department of the Medicine Faculty in Bucharest, and director of the Physiology Institute “Daniel Danielopolu”, being a continuator of prof. dr. D. Danielopolu.

Didactical publications

In 1934, together with prof. Gh. Popovici, he published the volume “Elements of Medical Physiology”, in 1947 he writes an “Elementary Handbook of Physiology” (2 volumes), and in 1952 “Elements of Physiology” (2 volumes). In 1962, at the Medical Publishing House of Bucharest, he prints the volumes “Elements of Normal and Pathological Physiology”.

Scientific activity

In 1931 he participated in a scientific training at the Medical Research Institute “Kaiser Wilhelm” in Heidelberg, where he met prestigious scientists, awarded with Nobel Prise for medicine, as O. F. Meyerhof and A.V. Hill.

His major fields of research were: biochemistry, muscular physiology, clinical physiology, occupational and nutritional physiology, pathological physiology, physical education in university teaching and in colectivities.

He had the following major contributions: 1935-1941 – endocrine mediation of the nervous influx in bulbar and hypothalamic vegetative centres; 1937-1940 – an explanation of the muscular fatigue and of senescence through the solubility of the tissue proteins and metabolites neutralization, the role of the corticosuprarenal gland; 1944-1962 – central nervous regulation of the immunological

reactions; 1956 – the method of the isolated somatoencephalical circulation by the isolated head technique (Benetato, Oprişiu, Baciu & Vasilescu); 1961-1971 – protein transformation in excitation mechanism; 1962-1972 – hormone action at the encephalic level.

Scientific publications

The publishing activity, representing the valorisation of the research results of Academician Benetato was very rich and diversified. In 1939 he publishes "Alimentation for individuals and groups" (Cartea Românească Publishing House, Cluj), in 1942 "The Trasfusion with Conservated Blood" (Sibiu); in 1971 "Bioradiotelemetrical methods in medicine" together with R. Vrînceanu and N. Ionescu (Romanian Academy Publishing House); and more than 400 articles have been printed in various national and international scientific journals. In 1948 appeared the volume "Experimental basis for medicine theory" of A.D. Speransky, in the translation by Gr. Benetato and Gh. Ursan.

Participations to scientific manifestations

He took part in a large number of national and international reunions, congresses and symposiums. In 1970 he organized the Regional UPS Congress of Physiology in Braşov. Between 1955-1963 he was the director of highly reputed journals of physiology and pathological physiology: *Studii şi cercetări de medicină* 1955-1958, *Revista de fiziologie normală şi patologică* (1955-1967), *Studii şi cercetări de fiziologie* (1955-1963) and *Revue roumaine de Physiologie* (from 1963 until his death).

Recognition of his value

As recognition of the value of his activity, in 1949 he was elected corresponding member of RPR Academy and director of the Medical Research Institute in Cluj. In 1957 he became president of the Medicine section of the Romanian Academy and president of the Physiology Society of Romania. In the interval 1958-1962 he was president of the Union of Societies of Medical Sciences (USSM). Also he was a member in various international scientific societies: International Academy of Astronautics, Chemistry-Biology Society of Paris, Purkinje National Medicine Society of Prague, etc.

The contribution to the development of physical education and sports

Grigore Benetato promoted physical education among the students, closely collaborating in this field with professor I. Hațieganu. In 1930 he was elected vice-president of the Medical Society of Physical Education and Sports (I. Hațieganu being the president). In 1932 he wrote the article "Efortul fizic în lumina cercetărilor

de laborator" (Physical effort in the light of laboratory research). In 1937 he took part at the first course of medicine applied in physical exercise, addressed to students, organized by I. Hațieganu, where he developed the following subjects: *The importance of the medical examination of the athletes, Alimentation in sportsmen and workers, Accidents in sport and their prevention.* In 1937 he collaborates at "The Sports Medicine Supplement" of *Clujul Medical journal*. In 1937 he was one of the most closed collaborators of Iuliu Hațieganu in the organization of the first training of sports medicine under the aegis of the Medical Society of Physical Education and Sports (May-June 1937) which intended to take place on an annual basis. His lecture was entitled: "General considerations on the physiology of the physical exercise". Also in 1937, together with Iuliu Hațieganu and other well-known doctors, he sustained some themes during the monthly conferences of medicine applied to physical education and sports, with the following subjects: "General considerations about physical exercise physiology" and "Physical effort and the endoglandular system". In 1946 he took part at the general Assembly of the University Students Sportive Associations, where he supported the necessity of founding an Institute for the scientific preparation of athletes. In the field of physical education and sports his preoccupations concerned *the role of the physical education in intellectual and physical development, the role of the physical effort as sanogenetic and preventive factor,* and *the importance of the training for competitive sportsmen, with reference to Ioan Moina.*

REFERENCES

HAȚIEGANU, I., sub red., 1938, Conferințe de medicină aplicată la Educația fizică şi sport, Ed. Cartea Românească, Cluj:49

MARIN F., 1999, Iuliu Hațieganu, Ed. Medicală Universitară „Iuliu Hațieganu" Cluj-Napoca:106,111,115,156,160,182,204,209,260,292,482,483

MARIN F., 2004, Facultatea de medicină, Şcoala Medicală Clujeană şi spitalele din Cluj (1500-1990), Ed. Casa cărții de ştiință, Cluj-Napoca: 685-695

xxx, 1937, Supl. Medicina sportivă nr.1,în Clujul Medical 4/1937:7(273)

TACTICS AND TYPES OF SURFACES: TWO KEY-ELEMENTS IN TENNIS GAME

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REZUMAT. Tactici şi tipuri de suprafețe: două elemente cheie în jocul de tennis. O adevărată relaxare pentru amatori, în schimb o dură întrecere pentru profesionişti, tenisul apare ca unul dintre cele mai complexe sporturi.

Datorită strategiilor personale de joc, marii campioni au crescut spectaculozitatea acestui sport, care în ultimele decenii a luat o amploare din ce în ce mai mare, fiind practicat de tot mai multe persoane de pe întreg globul.

Tactica adoptată de fiecare jucător de tenis este profund influențată de tipul de suprafață a terenului de tenis. Din acest punct de vedere se pot deosebi patru tipuri de stil de joc:

- Counter puncher- jucătorul care aşteaptă greşelile adversarului
- Aggressive baseliner- jucătorul agresiv din spatele liniei de fund a terenului
- All court-player- jucătorul care se deplasează pe întreaga suprafață a terenului şi care deține în repertoriu toată gama de lovituri
- Servă şi voleu- jucătorul care inițiază un atac la fileu imediat după ce a servit.

a) Counter-puncher

Jucătorul din această categorie preferă un stil de joc defensiv, preferă să returneze fiecare minge în terenul adversarului aşteptând ca acesta să greşească. Principala caracteristică a acestui stil de joc este deplasarea pe întreaga suprafață a terenului. Dar aceasta implică o mare rezistență la efort şi o mare răbdare pentru a câştiga un punct în urma unor schimburi de mingi extrem de lungi.

b) Aggressive- baseliner

Acest stil diferă mult de cel anterior prin forța mare de execuție a loviturilor elementare (forehand şi backhand) şi prin acuratețea mingilor trimise în jumătatea adversă. Aceşti jucători lovesc mingea în punctul maxim a traiectoriei ei sau când este în urcare.

c) All court-palyers

Jucătorii din această categorie au o constituție atletică (sunt înalți şi supli), o mare capacitate de execuție a loviturilor de pe fundul terenului sau de la fileu precum şi o mare abilitate de a acoperi întreaga suprafață de joc.Toate acestea sunt susținute de o tehnică a deplasării pe teren desăvârşită. Ei sunt tacticienii şi tehnicienii supreme având capacitatea de a deveni atât agresivi cât şi defensivi dacă jocul o impune.

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d) Servă şi voleu

După cum sugerează şi numele cei care preferă acest stil de joc sunt jucători cu o foarte bună viteză de deplasare, cu servicii şi voleuri puternice fiind consideraţi adevăraţi maeştrii ai loviturilor dificile (stop-voleuri, demi-voleuri

Ca o concluzie putem afirma cu tărie că în ultima decadă jocul de tenis se află într-o permanentă schimbare. Este cunoscut faptul că în trecut jocul de tenis însemna cât mai multe schimburi de mingi posibile, viteză de execuţie redusă; astăzi dimpotrivă tenisul înseamnă viteză de execuţie a loviturilor din ce în ce mai mare, forţă şi precizie.

Prin stilul personal de joc, campionii au contribuit foarte mult la creşterea calităţii întrecerilor sportive determinând un număr din ce în ce mai mare de oameni să se apropie şi să îndrăgească acest sport.

Tennis game has a large history and a vast culture being one of the most complex sports. Known as the white sport, due to the great majority of the tennis equipment used in tennis courts, tennis game appears at the beginning of the twenty century as one of the most appreciated sports.

In the last decade it has been greatly changed. It's well known that in the past it meant as many tennis balls exchanges as possible, poor velocity in execution; today by the contrary it implies a bigger and bigger speed in the hits, force and accuracy.

Does the tennis – "the mind sports"- has become an industry? Why? Without sponsors it is very difficult to get a top tennis player. Today when we speak about tennis we have in mind not only an extraordinary physical and psychical training but also a lot of money, many investments, many tournaments and mass-media's participation (television, radio, interviews, etc.) that have a very positive impact in tennis development and promotion. This year for instance at the American Open a record was touched regarding the prizes involved in the organization of it. The sponsors rewarded the participants with more than 40 million dollars. The winners got an impressive amount of money: more than one million dollars. We should also mention the unusual great number of spectators on the Flushing Medows tennis courts which was also a record.

Through their personal style of playing the champions have increased the spectacle offered by this game bringing more and more spectators in the platforms and determining more and more people to practice it.

But the style of playing of each tennis player is deeply influenced by the type of surface of the tennis court. From this point of view there are four styles of playing:

- Counter puncher- the player waits for the opponent error
- Aggressive baseliner- the aggressive player from the base line
- All court-player- the player who moves on the entire surface on the court

- Serve and volley- the player prefers to initiate an attack at the net immediately after the service

a) Counter-puncher

The tennis players from this category prefer a defensive game, to return each ball to his/ her opponent waiting for his/her own mistake. The main characteristic of this style of playing is movement in the court. But this style of playing implies a great resistance to physical effort and a lot of patience for winning the long exchanges of balls or apparently endless games. It also implies powerful hits from the bottom of the court perfect passing-shots, well executed and well controlled lifting hits. This style of playing is perfectly matched for slow surfaces where the top spin and lifting hits succeed.The ball is sent deep to the opponent's half, gets an amplified rotation effect which determines a raise of the amplitude of the ball's trajectory. The opponents find themselves in the impossibility of attacking at the net and if this thing happens they will be easily passed off.

The main objective of the defensive player is to defeat the opponent through the quality of his/her hits. This quality can be represented by strength, accuracy, variety, subtlety or all together.

To make the difference between constancy and accuracy is very important. Through constancy is normally understood the sent of the ball in the opposite half many times and without any mistake; the length of the hit or the placement of the ball are not previously and deliberately considered. Accuracy is defined as being the repeated sent of the ball in the desired areas of the opponent's half. Naturally there is a close link between the two terms in tennis game.

The defensive player must use his/her most powerful weapon to exploit the opponent's weaknesses not allowing him/her any moment of relaxation.

Other defining qualities of this kind of tennis player are: patience, the desire of saying "no", firmness. They are some fighters who love confidence but who do not assume too many risks.

Among the most important representatives of this style of play we can mention Rafael Nadal, Lleyton Hewitt, Juan Carlos Ferrero, David Ferrer, Tommy Robredo, David Nalbandian, Guilermo Coria, Gaston Gaudio, Nicolay Davidenko, Fernando Gonzales and the women tennis players Svetlana Kuznetova, Nadia Petrova, Patty Schnyder, Francesca Schiavone. As it can be easily noticed the Spanish tennis school prefers this tennis style used so successfully on the slow tennis surfaces with cinders. In the last fifteen years many top tennis players have come from Spain: Rafael Nadal and Sergi Bruguera won the French Open twice; Carlos Moya, Albert Costa, Juan Carlos Ferrero won it once , Alex Corretja gets in the final stage of the prestigious tournament.

b) Aggressive- baseliner

This style differs a lot from the previous one through the great force used in the execution of the basic hits (forehand and backhand) and through the

accuracy of the sent balls. These players hit the ball in the maximum point of its jump or while it is in the process of climbing. The result is that the opponent does not have enough time to get to the ball. To hit a climbing ball requires good speed, force and muscular strength and resistance at effort. The players are placed around the area of the bottom line- one meter in front or behind it; they use strong lifts, topspins and backhand hits executed with two hands. They also have the ability of placing the balls right near the bottom line of the tennis court.

Regarding their personality it implies cold aggressive tactics less risky. The players pays a lot of attention to the movement techniques on the tennis court, to the speed of getting to a ball. It was noticed that the powerful hits sent in the opposite half touch the corner areas of it.

Representatives: Andre Agassi, Marat Safin, Andy Rodick, Carlos Moya, Tommy Haas, Marcos Baghdatis and the women tennis players Maria Sharapova, Kim Klijsters, Elena Demetrieva, Lindsay Davenport.

c) All court-players

The players from this category have an athletic body building (tall and thin), a great capacity of placing the hits from the bottom of the tennis court and from near the net and a good ability of covering his/her entire playing surface. All these are supported by an efficient movement technique. They are the supreme tacticians having the ability of becoming either defensive players or offensive ones and of adjusting their style according to the opponent style of play. These kind of players make their own tactics as soon as they have identified the opponent weaknesses. They usually have a very good service approaching the net every time they have the chance. Other times they prefer to wait for their opponent's mistake. They have neither a certain tactics nor weaknesses.

The choice of a certain hit is based on the following factors:

- what he/she can do
- the hits type
- the placement on the tennis court
- the opponent placement on the tennis court
- the opponent weaknesses

At all these the surface type can be added.

All court-players combine the bottom field style of playing with that at the net in an harmonious whole, taking their chances in the right moments and thus creating a real show on the tennis courts.

Representatives: Roger Federer, Ivan Ljubicic, James Blake, Venus and Serena Williams, Martina Hingis, Justine Henin, Amelie Mauresmo.

d) Serve and volley

As the name suggests those who prefer this style are tall players with a very good reaction speed, with powerful services and precise volleys, being real masters of the difficult hits (volley-stops, semi-volleys, etc.). They get to the net not only after the first service but also after the second one, the point being won by

well placed volleys or short hits in diagonal. The opponent weak service is followed, most of the times, by quick attacks at the net.

These players love the risk and they take their chance even in the delicate moments of an important game. They also use the sliced effect of the ball both when they serve and when they sent the ball from the bottom of the tennis court.

They prefer the quick surfaces and sometimes the medium ones but they can be dangerous on clay, too.

When we talk about the play at the net, six key elements must be considered: courage, surprise, depth, speed, decision upon the kind of volley and an unique stop; all these are closely linked one influencing the others.

The offensive player must show a lot of patience in creating his/ her attack. He/She must train continuously, must have a good technique and a lot of trust in his/ her own capacities.

Unfortunately, nowadays this style is not practiced anymore; players like Tim Henman, Mario Ancic, Jonas Bjorkman or Radek Stepanek come closer to it.

The last remarkable representatives of this style are: Stefan Edberg, Patric Rafter, Richard Krajicek, Jana Novotna, Natalie Tauziat.

In the next few pages I will make a statistic research regarding the first eight players who participated at the Champions Tournament from Shanghai between 13 November and 20 November 2005.

At the beginning the players were grouped according to their position in the best tennis players top at that time in two groups:

The Red Group:

Roger Federer (1), Guilermo Coria (4), Ivan Ljubicic (6), David Nalbandian (8)

The Golden Group:

Rafael Nadal (2), Andre Agassi (3), Nicolay Davidenko (5), Gaston Gaudio (7)

The first reserve was Mariano Puerta (9) and the second one Fernando Gonzales (10).

Right before the beginning of the competition Rafael Nadal suffered an accident and he was replaced by Mariano Puerta (9); Andre Agassi had painful back-aches after the first match and was replaced by Fernando Gonzales (10).

The chronological results of the two groups:

13 November

(1) R. Federer defeats (8) D. Nalbandian: 6/3; 2/6; 6/4

(6) I. Ljubicic defeats (4) G. Coria: 6/2; 6/3

14 November

(5) N. Davidenko defeats (3) A. Agassi: 6/4; 6/2

(7) G. Gaudio defeats (9) M. Puerta: 6/3; 7/5

15 November

(1) R. Federer defeats (6) I. Ljubicic: 6/3; 2/6; 7/6
(8) D. Nalbandian defeats (4) G. Coria: 7/5; 6/4

16 November

(5) N. Davidenko defeats (7) G. Gaudio: 6/3; 6/4
(10) F. Gonzales defeates (9) M. Puerta: 6/3; 4/6; 6/0

17 November

(1) R. Federer defeates (4) G. Coria:6/0; 1/6; 6/2
(8) D. Nalbandian defeates (6) I. Ljubicic: 6/2; 6/2

18 November

(5) N. Davidenko defeates (9) M. Puerta: 6/3;6/2
(7) G. Gaudio defeats (10) F. Gonzales: 1/6; 7/5; 7/5

According to the obtained results the classification of the two groups was the following:

Red Group:

Pos. ATP	Player	Country	Matches	Sets	Games
1	Roger Federer	SUI	3-0	6-3	42-36
8	David Nalbandian	ARG	2-1	5-2	38-27
6	Ivan Ljubicic	CRO	1-2	3-4	31-32
4	Guilermo Coria	ARG	0-3	1-6	22-38

Gold Group:

Pos. ATP	Player	Country	Matches	Sets	Games
5	Nicolay Davidenko	RUS	3-0	6-0	36-18
7	Gaston Gaudio	ARG	2-1	4-3	35-36
10	Fernando Gonzales	CHI	1-1	3-3	32-24
3	Andre Agassi	USA	0-1	1-2	6-12
9	Mariano Puerta	ARG	0-3	1-6	22-41

In semi-finals Roger Federer and David Nalbandian from the Red Group were qualified and from the Golden Group Nicolay Davidenko and Gaston Gaudio. The semi-final results were:

(1) R. Federer defeats (7) G. Gaudio: 6/0;6/0
(8) D. Nalbanian defeats (5) N. Davidenko: 6/0;7/5
The final:
(8) D. Nalbandian defeats (1) R. Federer: 6/7 (4); 6/7 (11); 6/2; 6/1; 7/6 (3)

For a better understanding of the play style of each player let's get a closer look on the Red Group:

Statistics	(1) R. Federer			(4) G. Coria			(6) I. Ljubicic			(8) D. Nalbandian		
Nr. match	1	2	3	1	2	3	1	2	3	1	2	3
First serve(%)	69%	67%	63%	57%	64%	59%	71%	66%	59%	66%	61%	66%
Aces	11	10	7	1	3	1	8	9	3	3	3	2
Double faults	2	3	1	2	3	1	2	3	3	2	2	1
Forehand wins	14	15	11	5	7	7	7	7	5	10	8	8
Backhand wins	4	2	2	2	3	1	6	9	4	7	7	5
Points wins /aproach to net	19/23	21/25	16/21	1/3	3/4	2/6	11/14	12/16	6/9	2/3	3/5	0/1
Unforced errors	12	14	13	14	16	15	12	15	14	16	15	11

Conclusions

- Roger Federer has proved once again why he is number one in ATP for 3 years. In my opinion he is the greatest tennis player of all times. The ease of his hits, his enormous creativity during the matches, the perfect psychical equilibrium, the accuracy, precision and efficiency of his hits recommend him as the best among the best.

At the first service he got a high percentage; his services were not very strong but very well-placed managing a lot of aces during the matches. The right hits, the winning backhands and the winning points at the net include him in the "all court-player" category. This statement is sustained by the great number of individual errors so usual for an offensive player. His very powerful right hit doubled by a very precise volley also recommend him as the most complex tennis player ever seen.

- Guilermo Coria had a quite low percentage at the first service; it is well known that service is not his strength. During the matches he rarely approached the net only when the situation required it and won less points with his right hits. All these facts place him in the category of the tennis players who prefer "counter-puncher" style and a slower tennis surface.This high percentage of individual mistakes is due to the high speed of the ball's jump after the contact with the playing surface. Coria was obliged to play close to the bottom line of the tennis court which was not very comfortable for him at all; this situation implies the hit of the ball sooner than on the slow surfaces and a fast movement on the tennis court. These would be two of the factors which determined his defeat.

- Ivan Ljubicic served very well, without many double mistakes managing to create himself a great advantage from the service. During the tournament he had the strongest services realizing a lot of aces. This admirable weapon was doubled

by an excellent right hit and a very efficient one-hand flat or lifted REVER. He did not hesitate to initiate attacks at the net realizing many winning points with his right hand and spectacular volleys. All these underlined aspects recommend him as an “all court-player” with great offensive capabilities.

- David Nalbandian was the great surprise of this tournament. He started as the eighth favourite and ended by winning it. His success was a remarkable one considering that he defeated the great Roger Federer, the man whose style of play seems to be an alien one from another planet, the man who has not been defeated by anybody for three years. At all this we can add the fact that the results of the last encounters between the two in the official matches indicate Roger Federer as the main candidate for winning the tournament. But in that final David Nalbandian touched an almost imposible limit succeeding to win the match after a score of 0 to2 for R.Federer. The final score- 3 to 2- is the proof of his strong psyche, immense will and great trust in his own capacities, characteristics of the great champions. Generally his service was a good one, without many double mistakes but without managing to create himself a great advantage from it. But his right hits and REVER were his remarkable weapons in creating very efficient hits from almost all the positions. At these we can add a very high speed of hits execution , rapid movements in his half; he attacked at the net only when he did not have any other option the volley being his weak point. However his preference for the hits executed from the bottom of the tennis court shows a kind of defensive approach making him a “counter- puncher” player.

- We cannot end without mentioning a few things about Andre Agassi the idol of millions of people. Although he ended his participation sooner than it was expected –as we have previously mentioned he had suffered an accident in his first match- his winning right hits and the play from the bottom line of the tennis court recommend him as an “aggressive-baseliner”. His service is not a very strong one but it is very efficient and well placed; the topspin hits and the comings to the net are parts from a very spectacular play. Personally I consider him the tennis player with the most efficient return of service from the world; he is capable of returning services of more than 200 km/h with a great accuracy and efficiency being placed at two or three meters inside his half in the moment of execution.

REFERENCES

Moise, G. Moise, D., 1999, “Tennis.Modele de lecții de antrenament pentru pregătirea tehnico- tactică de performanță”, Tipografia Goliat s.r.l. Constanța

Moise G., Moise D., Doboşi Ş., 1995, „Tenisul pentru începători”, Tipografia Garamond, Cluj- Napoca

Richard S., 1993, „Să învățăm corect tenis de la inițiere la performanță”, Editura Helicon

Segărceanu A., 1998, „ Tehnică. Tactică. Metodică”, Editura Quasar, Bucureşti

ASPECTS REGARDING THE INFLUENCES OF AEROBIC GYMNASTICS ON BODILY MORPHO – PLASTICITY

DOBRESCU TATIANA[1], RAȚĂ GLORIA[2]

REZUMAT. Aspecte privind influențele gimnasticii aerobice de intreținere asupra nodelării morfoplastiei corporale. Practicarea organizată a exercițiului fizic de către persoanele de diverse vârste este necesară, având influențe generale asupra organismului uman. Gimnastica aerobică a reuşit, prin multiplele sale efecte, să devină o formă de activitate motrică model. Gimnastica aerobică reprezintă un mijloc cu valențe multiple asupra organismului şi o formă eficientă de optimizare a lecțiilor cu scop didactic. Activitatea aerobică, prin mijloacele şi metodele aplicate, are rezultate deosebite din punct de vedere pedagogic, biologic, psihic şi social. Dezvoltarea echilibrată a grupelor musculare contribuie la îmbunătățirea morfoplastiei corporale, la realizarea unui corp puternic, sănătos. Rezultatele superioare obținute de practicantele din grupa experimentală la majoritatea indicilor vizați atestă eficiența mijloacelor aplicate în cadrul experimentului. Acest lucru confirmă ipoteza lucrării.Mijloacele create şi aplicate în experiment în fiecare lecție s-au dovedit benefice pentru modelarea morfoplastiei corporale. Accesibilitatea lor şi atractivitatea acestora au condus la creşterea interesului participantelor pentru această activitate. În paralel cu acest demers, cursantele au căpătat cunoştințe noi, utile pentru continuarea activității în afara programului organizat. Influențele pozitive reflectate în îmbunătățirea indicilor morfoplastiei corporale, în schimbarea vizibilă a aspectului fizic, au condus la o conştientizare a participantelor asupra necesității efectuării sistematice a exercițiilor pentru părțile "cu probleme", deci, iată un argument convingător pentru practicarea gimnasticii aerobice. Răspunsurile la chestionarele administrate persoanelor de sex feminin relevă faptul că, acestea sunt conştiente de: influența benefică a gimnasticii aerobice pentru sănătate şi modelarea morfoplastiei corporale, identificând şi alte influențe ca: dezvoltarea capacității fizice, relaxare neuro-psihică, creşterea optimismului, a încrederii în sine etc. Datele obținute relevă că gimnastica aerobică este un mijloc deosebit de eficient, dacă este bine conceput, dacă-şi propune obiective concrete, dacă are efecte vizibile pentru a se constitui nu numai într-un argument pentru mişcare ci şi într-un hobby, ca o necesitate şi o dorință permanentă pentru a fi mereu supli, puternici şi cu o sănătate înfloritoare.

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Keywords: aerobic gymnastics, influences, shaping, bodily morpho-plasticity, young girl, being aware

Practising the physical exercise regularly by people of different ages is a necessity, having general influences toward the human oragnism. Aerobic gymnastics has succeeded, through its multiple effects, in becoming a form of model motor activity.

Aerobic gymnastics represents an instrument with multiple values toward the organism and an efficient form of optimising the lessons with a didactic purpose. The aerobic activity, by the means and through the methods applied, has excellent results from pedagogical, bilogical, psychical and social point of view. The balanced development of the muscular groups contributes to improve the morpho-plasticity of the body, to form a healthy and strong body.

The superior results obtained by the probationers in the experimental group in most of the aimed values certifiy the efficiency of the methods applied in the experiment and confirm the paper's assumption. The means created and applied in the experiment in each lesson have turned out to be advantageous in shaping the morpho-plasticity of the body. Their accessibility and atractivity have led to an increasing in the participants' interest to this activity, which could become, in time, a challenge in the young women's life.

Simultaneously with this experiment, the cursists have achieved new pieces of information, useful for continuing the activity outside the organised curriculum. The positive influences reflected in the improvement of the bodily morpho-plasticity's values, in the visible change of the physical aspect, have made the participants being aware of the necessity of a systematic performing of physical exercises for the "problematical" parts, therefore, here is a convincing argument for practising aerobic gymnastics.

The answers to the questionnaires applied to female persons reveal the fact that they are aware of: the beneficial influence of aerobic gymnastics toward health and shaping the morpho-plasticity of the body, identifying some other influences, such as: the development of the physic capacity, neuro-psychical relaxation, increasing of optimism, of self-confidence etc. The obtained information reveal that the aerobic gymnastics is a very effiecient instrument, if it is well conceived, if it aimes precise purposes, if it has visible effects to become not only an argument to exercise, but also a hobby, like a necessity and a permanent desire of being always lithe, powerful and healthy.

Bodily plasticity is a natural quality which offers the eye the ability of catching it in an infinite variety of its forms in space, claims A. Dragnea.

In order to achieve plasticity a series of exercises must be practised, the most important being the physical exercise, which maintains suppleness and physical condition.

Organized practising of the physical exercise by people of all ages is necessary because of the general influences on human body. Aerobic gymnastics have succeeded, through its multiples effects, in becoming a model form of motor activity. From the teenager's desire of being in shape and looking good, to the middle-aged lady's desire of forgetting the daily problems and feeling good, aerobics can accomplish a large amount of physical condition's and health's tasks. Some specialists claim that the two terms, physical condition and health, are strongly connected, other say they identify one with the other. It is certain that one can not be without the other.

The way to obtaining a good physical condition has no shortcuts. The only one valid remains the one of physical exercises linked to balanced nourishment and efficient reconstruction system. (Șt. Kulcsar, 2000, p. 14)

Aerobic gymnastics represent a multiple valence way of practicing the physical exercise toward human organism and an efficient form of optimising the didactic lessons. The aerobic activity, by the means and methods used, has excellent pedagogic, biologic, psychic and social results.

The motion is a strong tonic and at the same time a longevity factor, which represents a real source of freshness, having an important value in fighting against premature ageing. It influences the morphogenesis of the muscular system, the muscles getting a nice fusiform, long-limbed shape, and the body an accurate port.

People who have respect for motion and take care of their health have an harmonious body and motion line, which requires to be completed by an ethic and moral behavior. (G. Stoenescu, 1990)

The aerobic motion, correctly applied on scientific basis, regardless of the branches, has real advantages in strengthening health and in fighting diseases, not only at sportsmen, but also at other persons.

The balanced development of the muscular groups contributes to the improvement of the bodily morpho-plasticity, to obtain a strong, healthy body. The physical appearance of the teacher, a model for his students, is an important aspect for this profession.

"Corporéité", shows M. Bernard (1995), could be the subject of an essential study of the century to come... and the professionals in motion (teachers of physical education and the coaches) will be able to play decisive roles and will have great responsibility in managing the body.

It is doubtless that lately fitness centers have spread out, consequently the physical education teacher must be prepared for this activity too.

Fitness for existence, indicates A. Dragnea (1999, p. 222-229), is an expression that represents an entire philosophy which emphasizes the importance of a rational regime in which physical exercises are inseparable part of human life.

As a result, I consider the chosen theme of present interest, and thoroughly studying the problem is useful for people's condition, liable to daily life rigors.

Assumption of the research It is assumed that the selection, the elaboration and application of some well rationalizated exercises, during the aerobic gymnastics lesson contributes to improve the parameters of cursists' bodily morpho-plasticity.

Research methods that were used are: the documentation, the pedagogic analysis, the experiment, the test, the investigation, the mathematic-statistic method and the graphic one.

The experiment proceeded within the framework of "FELINA" Club from Bacău, with a group of practicians composed by 15 persons, between 1st October and 31st December 2002. The control group, composed by 15 persons carried on its activity under the guidance of another professor from "FITNESS" Club from Bacău.

The investigation method represents a questionnaire applied by 44 female persons and consists of seven questions: 2 of them closed and the other 5 open.

The initial and final tests were applied to both groups in the same period (October and December) and in the same conditions and consisted in measurements regarding weight and bust, waist, hips, arms and thigh perimeters.

In order to demonstrate the possibility of improving the bodily plasticity's parameters I have elaborated and applied during the aerobic gymnastics lesson a couple of exercises that addressed especially to those zones of the body which need muscles fortifying and extra fat tissue removing.

At the same time, I have helped the cursists realize the effects of these exercises, in order to motivate them, to determine them to participate actively and constantly. In this case, the strongest motivation was: *"to look good, to be always young and beautiful*[1]*'*.

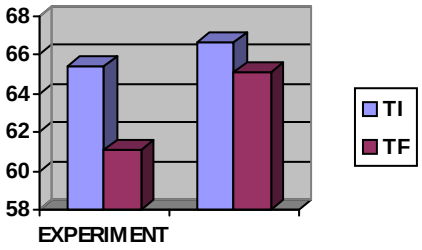
To increase attractivity I have used a wide variety of exercises, proper music, in harmony with their characteristics and with the cursists' preferences.

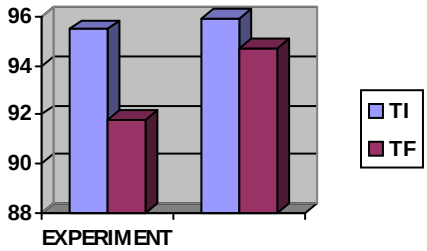
Results of the research

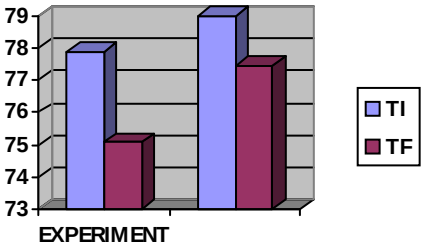
As a result of the tests, of processing statistically and mathematically of the obtained data, it can be drawn the following conclusions:

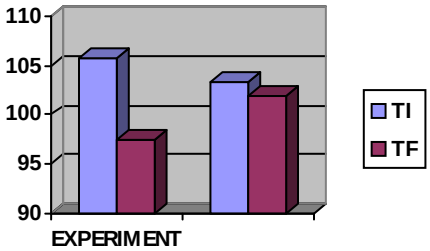
The experiment group presents, in comparison with the control group, lower values of the arithmetic average on **weight** in both tests. The variability quotient evidences a higher dispersion at both groups and in both tests, the dispersion having a slightly raised parameter in the final test. Brada parameter presents a value progress of the experiment group: 6,91% in comparison with 2,33% at the control group.

In the initial test both groups present close averages on **bust perimeter** 95,47 respectively 95,93. In the final test the experiment group has a lower average. The variability quotient reflects a higher dispersion, superior at the control group, in both tests. The Brada parameter evidences a higher progress at the experiment group (3,91%) in comparison with the control group (1,32%).









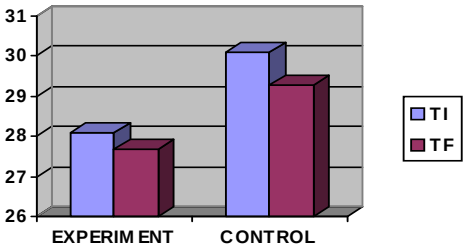
The arithmetic averages of the **waist perimeters** are superior at the control group in comparison with the experiment one, in both tests.

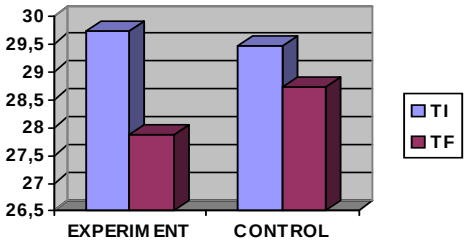
While the control group has a good level of homogeneity, in the case of the experiment group the dispersion is higher. The Brada parameter evidences a constant progress of the experiment group in comparison with the one recorded in the control group: (6,10% in comparison 1,95%).

At the experiment group, **hips perimeter** records, in the initial test, a superior average in comparison with the control group. In the final test the situation is reversed. The variability quotient indicates good homogeneity at both groups and in both tests. The Brada parameter reflects a clearly superior progress at the experiment group (8,26) in comparison with the control group's one (1,43%).

At the **left arm**, the arithmetic averages in the initial test are close at the two groups. On the other hand, in the final test, the control group presents a higher average. As regards the variability quotient, it reflects a high dispersion, at both groups and in both tests. The Brada parameter reflects a similar progress of the two groups, de 2,93% at the experiment group and 2,54% at the control group.

At the **right arm,** the control group presents superior averages in both tests. Both groups present a high dispersion, which is getting lower in the final test at the experiment group, and at the control group is getting higher. The Brada parameter evidences a significant progress at the control group (2,69%) in comparison with the one recorded at the experiment group (1,54%).





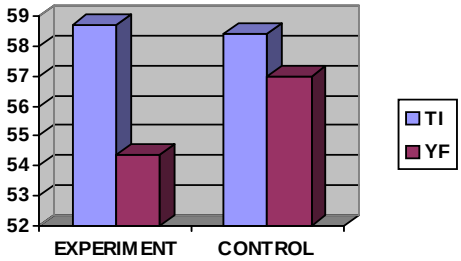
In the initial test of the **right thigh perimeter** the arithmetic averages are very close, but in the final test the control group presents higher values. The homogeneity of the groups is good in both tests.

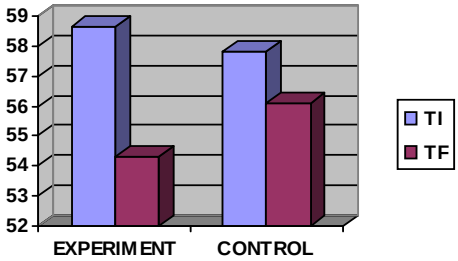
The progress is more obvious at the experiment group, with a 7,65% parameter, comparing with the control group where it is 2,42%.

In the initial test of **the other thigh**, the experiment group presents a higher average, and at the final test the average of the control group is higher.

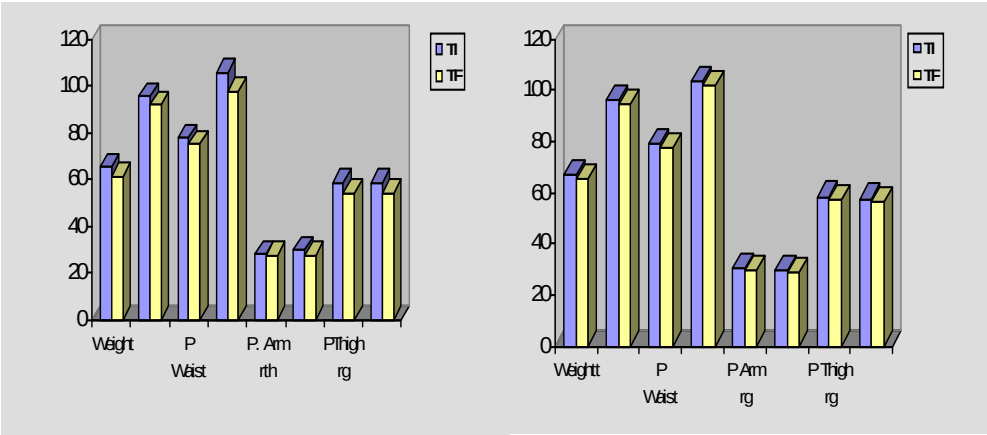
The variability quotient shows a good homogeneity in both tests.

The progress is more evident at the experiment group, 7,68% in comparison with the progress registered at the control group of 2,69 %.





The two graphics represent the arithmetic averages recorded in all measurements realised, at both groups, both at the beginning of the research and at the end of it. Analysing the obtained values it comes out that the experiment group recorded more significant progresses than the control group. This fact proves a decrease of the quantity of fat tissue, especially at the thighs and hips, justifying the benefic influences of the aerobic gymnastics' means.



Analysing the results of the query applied to the subjects resulted the following:

1. *The first question has asked the subjects to appreciate the benefits of practising aerobic gymnastics concerning health and bodily morpho-plasticity shaping.*

The answers, entirely affirmative, indicates the fact that the inquired persons are aware of the necessity of practicing aerobic gymnastics, although some of them practice it irregularly, or even at all.

2. *The answers of the second question emphasize the opinions regarding other influences of the aerobic gymnastics:*

- All the subjects consider that aerobic gymnastics increases body resistance to physical effort.
- Most of the investigated persons, 78% meaning 30 subjects, sustain that aerobic gymnastics help eliminate the extra fat tissue, increasing self-confidence and optimism.
- 47% meaning 18 subjects, consider that aerobic gymnastics influences the bodily morpho-plasticity shaping;
- 43% meaning 15 subjects, consider that aerobic gymnastics influences the mind;
- 26% meaning 10 subjects, consider that aerobic gymnastics interferes in increasing mobility and the musculature;
- 21% meaning 8 subjects consider that aerobic gymnastics modifies and maintains the general tonus;
- 11% meaning 4 subjects, consider that aerobic gymnastics improves the frame of mind, becoming more optimistic and confident;
- 5% meaning 2 subjects, consider that aerobic gymnastics controls certain functional disorders.

This question was addressed only to persons who practice aerobic gymnastics.

3. *When asking "Do you practice aerobic gymnastics?", from 44 persons inquired, 38 systematically practice aerobic gymnastics, and 6 don't.*

The answers to this question were:

- 86% meaning 38 persons practice aerobic gymnastics regularly;
- 14% meaning 6 persons don't practice aerobic gymnastics.

All the subjects that answered positively (38) practice aerobic gymnastics systematically.

In what concerns the frequency of practising this sport it comes out that:

- 68% meaning 26 subjects, practice daily aerobic gymnastics;
- 21% meaning 8 subjects, practice 3 times per week aerobic gymnastics;
- 11 % meaning 4 subjects, practice aerobic gymnastics 2 times per week.

4. *From the fourth question's answers results the reasons for practising aerobic gymnastics, as it follows:*

- Most of the inquired, (78% meaning 30 subjects) aimed to eliminate the extra kilograms by practising aerobic gymnastics;
- 53% meaning 20 subjects, want to increase strength and resistance;
- 47% meaning 18 subjects wish to maintain a good physical appearance by practising aerobic gymnastics;
- 43% meaning 15 subjects, want e better state of mind by practising aerobic gymnastics;
- 26% meaning 10 subjects, want a higher level of mobility by practising this sport;
- 26% meaning 10 subjects, practice aerobic gymnastics to keep in good shape of health;
- 8% meaning 3 subjects, want to get rid of depressive states;
- 8% meaning 3 subjects, practice aerobic gymnastics because they have sedentary way of life;
- 5% meaning 2 subjects, want to spend their free time in a pleasant and useful way;
- 5% meaning 2 subjects, practice aerobic gymnastics craving for practice;
- 5% meaning 2 subjects, by practising this sport want to control certain functional disorders (arterial hypertension, peripheral circulatory disorders, relative functional impotency of the scapular belt).

5. *The subjects that don't practice aerobic gymnastics (6 subjects inquired) motivate:*

- 83% meaning 5 subjects, don't practice aerobic gymnastics because they have overtime work;
- 67% meaning 4 subjects, don't practice aerobic gymnastics because of "lack of time";

- 33% meaning 2 subjects, don't practice regular exercises because of lack of interest.

6. *When asking "What do the changes regarding your physical appearance consist of after practising aerobic gymnastics exercises?", the subjects answered:*

- 79% meaning 30 persons have visibly lost weight;
- 79% meaning 30 persons kept health condition at a top-level;
- 68% meaning 26 persons that practice daily aerobic gymnastics have noticed a visible change concerning the bodily morpho-plasticity shaping;
- 68% meaning 26 subjects have recovered joints' mobility and increased their physical resistance;
- 53% meaning 20 subjects, have fortified their musculature;
- 32% meaning 12 subjects have kept their nice physical appearance.

7. *In the last question I asked for suggestions to improve the activity the subjects have at the club they practice aerobic gymnastics.*

The majority of the inquired, 79%, consider it would be necessary a larger space in which to practice;

- 79% meaning 30 subjects, wish a wider variety of exercises with greater complexity;
- 53% meaning 20 subjects, suggest expanding the sports grounds with lockers to keep the equipment that doesn't need daily cleansing;
- 32% meaning 12 subjects, suggest that the professor should permanently intervene to correct mistakes in exercises;
- 5% meaning 2 subjects, suggest changing the choreographer, at specific periods of time, considering this as being stimulating;
- 3% meaning 1 subject, says that every lesson "should be a challenge!";
- 3% meaning 1 subject, suggests setting mirrors on the side walls of the gym.

As a **conclusion** to the research and interpretation of the obtained results, it can be stated that:

1. The superior results obtained by the practicians from the experimental group in most of the hinted parameters certify the efficiency of the methods applied in the experiment. This fact confirms the assumption of the paper.
2. The most significant progresses were obtained at the hips perimeter (6,83), thighs perimeter (5,23 – right thigh; 4,99 – left thigh), weight (4,58), waist (4,15). At bust perimeter the parameter is diminished (2,59), and at the right arm perimeter, the control group obtained a meaningful progress (1,15).
3. The methods created and applied in the experiment in each lesson have proved to be beneficial to bodily morpho-plasticity shaping. Being accessible and also attractive, have led to a raise of the practicians interest in this activity.
4. Concomitantly with this approach, the practicians have achieved new information, useful for carrying on the activity outside the schedule.
5. The positive influences reflected in the improvement of the bodily

morpho-plasticity's parameters, in the visible change of physical aspect, have helped the practicians be aware of the necessity of systematically practising exercises for the "problematic" areas, therefore, here is a convincing argument to practice aerobic gymnastics.

6. The answers in the questionnaires applied to female persons reveal the fact that these are aware of the benefic influence of aerobic gymnastics in health and bodily morpho-plasticity shaping, finding some other influences such as: the development of the physical capacity, neuro-psychic relaxing, increase in optimism and self-confidence etc. Being aware of these effects, the majority of the inquired persons regularly practice aerobics, the highest percentage (68%) with a daily frequency. Those who don't practice it (14%), give as a reason the lack of free time, work schedule and snugness.

7. The obtained data shows that aerobic gymnastics is an extremely efficient method, if it is well conceived, if it sets real goals, if it has visible effects in order to be not only a reason for motion but also a hobby, as a permanent necessity and desire of always being supple, powerful and healthy.

I consider that it would be useful to put systematically into practice some groups of aerobic exercises during the physical education lessons, with female practicians, but not only, with suitable and "trendy" music, being a way to touch the participants' heart, and afterwards, during the lifetime, the ideal way of preserving youth and beauty.

Mass-media should make more popular this form of motion, and in order to make this possible to collaborate more only with specialized persons, at the same time to offer relevant information about the importance and the effects of aerobic gymnastics.

It must be kept an eye on the fact that, in order to be properly developed, this activity can not be practised without a strict medical examination and must be coordinated only by persons well-trained in the field, so as both physical "accidents" and functional disorders be avoided, which, unfortunately, appeared is some sport centers.

The activity must be so well organized that every hour be like "a challenge", as one of the inquired persons noticed.

ICT IN TEACHING PROPHYLACTIC PHYSICAL EXERCISES

VASILICA GRIGORE[1]; MONICA STANESCU[2]

REZUMAT. ICT în predarea exercițiilor fizice cu character profilactic. Societatea contemporană se confruntă cu numeroase probleme, una dintre cele mai grave fiind cea referitoare la starea de sănătate a populației. Expunerea la numeroşii factori de risc, ale cărei efecte negative sunt resimțite de la cele mai timpurii vârste, reprezintă unul dintre pericolele cu care se confruntă omenirea astăzi. Specialiştii din diferite domenii şi-au arătat interesul față de aceste aspecte şi au furnizat o serie de soluții. Lor li se adaugă şi specialiştii din domeniul educației fizice şi sportului care îşi pot aduce o contribuție importantă la promovarea activităților specifice unui stil de viață sănătos. În acelaşi timp, specialiştii beneficiază în munca lor de sprijinul pe care îl furnizează metodele şi mijloacele ICT.

Scopul acestei lucrări este acela de releva rolul şi importanța acestor metode în procesul de educare a populației în spiritul formării unei mentalități pozitive față de practicarea zilnică a exercițiilor fizice. Pentru realizarea scopului propus, lucrarea evidențiază principalele direcții în care se pot utiliza metodele şi mijloacele ICT, astfel încât să se prevină bolile degenerative şi îmbolnăvirile, în general, dar şi nivelul de pregătire al specialiştilor din domeniul nostru, în folosirea mijloacelor menționate. În cadrul acestei cercetări s-a utilizat metoda studiului bibliografic şi metoda anchetei, care a fost aplicată unui număr de 180 de profesori din învățământul preuniversitar, participanți la programe de perfecționare pentru obținerea gradului definitiv şi a gradului doi.

Rezultatele studiului evidențiază posibilitatea folosirii ICT în domeniul educației fizice, dar şi obstacolele care trebuie depăşite în acest demers.

Introduction

Our contemporary society faces numerous problems, one of the most important being the population's health state. The exposure to multiple risk factors whose side effects can be felt starting from an early age, represents one of the greatest dangers of mankind nowadays. Specialists from different fields (medicine, biology, psychology, sociology) shown interest in these issues and have provided different solutions meant to decrease the negative effects of the above-mentioned factors upon the human being. The specialists in Physical Culture and Sports

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brought themselves an important contribution, by promoting various activities for a healthy life style.

It is known that one of the main objectives of physical exercises programs refer to the maintaining a certain degree of health in the population of all ages, to the prevention of illness and of the degenerative diseases. In this respect, it is to notice the action of several leisure programs which have proven their efficiency by meeting the above-mentioned objective.

At the same time, specialists benefit from the ICT support in their attempts.

For the specialists in our field, the latest years mean challenges concerning the structure of the learning content, but also the improvement of teaching flexibility. At this second level, there are important "functional resources" insufficiently explored.

Keeping in mind the practical aspect of physical exercises, the professionals don't consider the information and communication technology (ICT) as a natural partner in practicing physical exercises, although this partnership could be very efficient when integrated into the teaching process.

ICT means more than computer using, because it also involves the electronic measurement equipment and the records to evaluate students' and teachers' performances. Organizing, objective assessment, accurate evaluation, result records, all can be improved by using the modern technology. So, we can appreciate that the new modern tools could serve two main objectives:

- to improve the teaching methods used in physical exercises field through these new technologies supposing the "face-to-face" learning;
- to use the potential of these methods in the training process of the specialists in our field.

ICT also improves the learning process, by sustaining the motor skill process. The subjects can choose a learning style, by having thus an increased independence in their actions. By using different ICT tools, subjects will be able:

- to access, select and process information;
- to recognize movement patterns, as well as the relationship between these ones and the motor behaviors;
- to model the practice, predict the performance and formulate hypotheses;
- to accurately evaluate/self evaluate practice;
- to review performances and to improve their quality;
- to have feedback concerning executions;
- to communicate with the others and to present information;
- to improve work efficiency.

At the same time, ICT support the learner subjects in their efforts to acquire motor skills in different leisure programs. Thus, it will be possible:

- to increase the capacity of selecting and putting into practice the known skills, the tactical solutions and the choreography ideas;

- to diversify subjects' roles and responsibilities in physical education, leisure, sports or corporal expression activities;
- to access different information resources that could build new knowledge in physical culture domain, to establish new relations with other learning fields;
- to access information from anatomy, physiology, sports sociology, health and life quality;
- to improve the awareness concerning physical exercises effects on the individual and the social community.

For the prophylactic physical exercises teacher, ICT is useful:

- to emphasise some positive examples (performances, action model, good practice);
- to create a database with subjects' results and to classify these results;
- to participate in on-line group discussions, to share ideas and good practice experiences.

Aim of the paper. The main aim of this paper is to reveal both the role and the importance of these methods in the population's educational process. In order to achieve this objective, we have highlighted the preparation level of the specialists in Physical Culture and Sports field in using ICT and the main directions they use it.

Hypothesis. The improvement of ICT methods and means and their frequent presence in the educational area determine a positive attitude of the teaching staff specialized in physical culture and sports towards their using.

Sample. In this research, we inquired 180 teachers in the undergraduate education, who participated in a continuous education program (100 teachers attended the course in order to obtain their permanent appointment and 80 teachers to obtain their 2nd degree).

As for their teaching experience, it was under 5 years (92%) for the first category and between 5 and 10 years (74%) for the second category (tables no. 1 and 2, graphs no. 1 and 2).

Table no. 1.

Years of teaching experience in the educational system

Years of experience	Permanent appointment	Second degree
<5	92%	11%
5 - 10	5%	74%
>10	3%	15%

Graph no. 1. Years of experience in the educational system

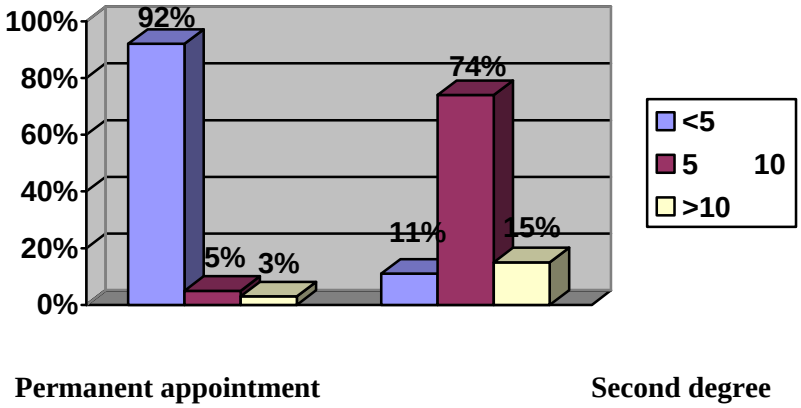
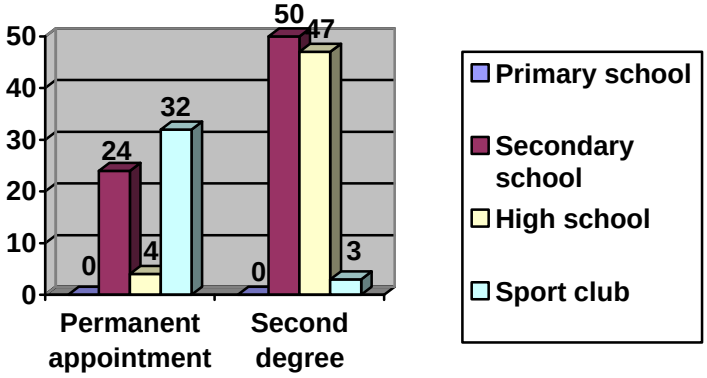


Table no. 2.

Teachers' work places

Work place/percent	Permanent appointment	Second degree
Primary school	0	0
Secondary school	24	50
High school	4	47
Sport club	32	3

Graph no. 2. Teachers' work places



Research methods. During this research, we used the bibliography and the inquiry methods. The assessment tools - the questionnaires - were also used in the Comenius project, ANEFS being one of the 7 partners[3]. The answers highlighted teachers' experience in using ICT and their attitude towards these tools in teaching physical exercises.

Results and interpretation

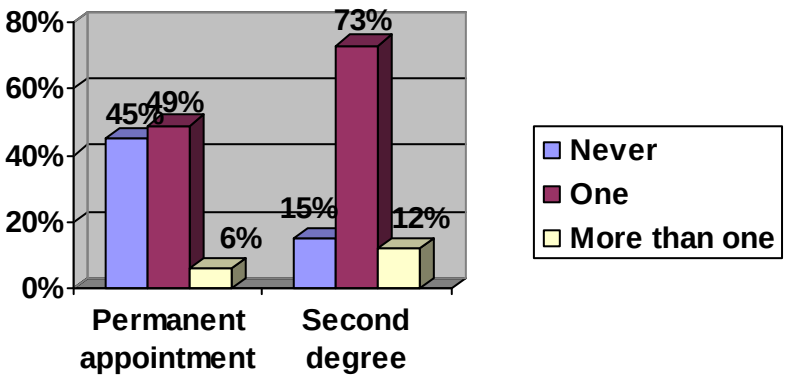
1. From the teachers' answers, we found out that 49% out of the teachers who aimed at obtaining their permanent appointment and 79% their second degree participated at least once in a PC course. 46%, respectively 59%, participated in an ICT education course (tables no. 3 and 4, graphs no. 3 and 4).

Table no. 3.

Teachers' involvement in PC courses

Answer	Permanent appointment	Second degree
Never	45%	15%
Once	49%	73%
More than once	6%	12%

Graph no. 3. Teachers' participation in a PC course



[3] The topic of this paper is also a concern for the Comenius Project "FISTE - A future way for in-service teacher training across Europe" (financed by EC), where the ANEFS Bucharest is a partener together with other 6 institutions from Romania, Finland, Island, Spain and Latvia.

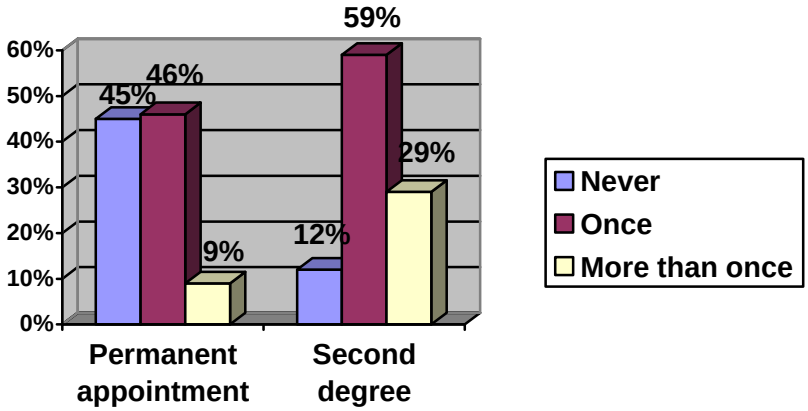
As far ad we can see, at the second degree level, most of the teachers participated in a PC course. So, we can appreciate that they felt this need during their professional career. The teachers from the 1st category are still in their first years of activity and did not give much importance to this aspect.

Table no. 4.

Teachers' involvement in ICT courses

Answer	Permanent appointment	Second degree
Never	45%	12%
Once	46%	59%
More than once	9%	29%

Graph no. 4. Teachers' involvment in ICT courses



As for the ICT course, we can notice the same high percent in the teachers from the second degree category.

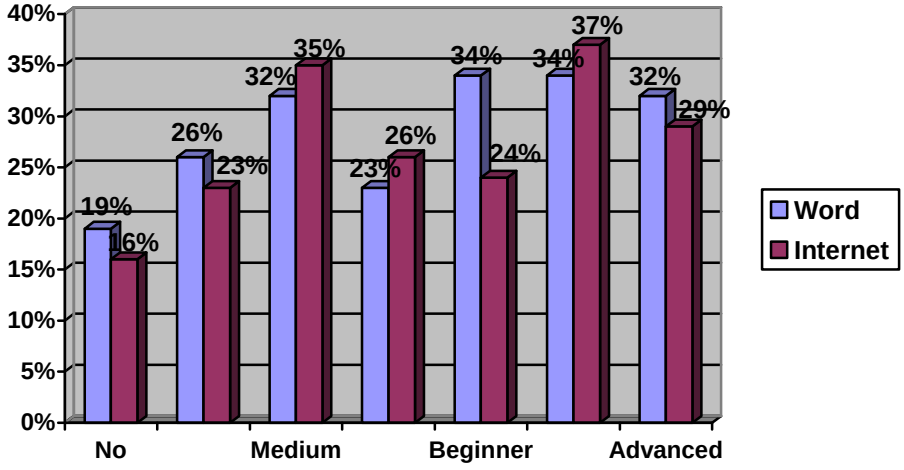
2. Concerning teachers' experience in using the editing and the Internet software, we found out that about 30% out of the teachers have a middle level of knowledge in using them (table no. 5, graph no. 5).

Table no. 5.

Teachers' experience in using different softwares

Software	Permanent appointment				Second degree		
	No	Beginner	Medium	Advanced	Beginner	Medium	Advanced
Word	19%	26%	32%	23%	34%	34%	32%
Internet Explorer	16%	23%	35%	26%	24%	37%	29%

Graph no. 5. Teachers' experience in using different softwares



As in the previous item, the second degree teachers seem to be more experienced in using these softwares.

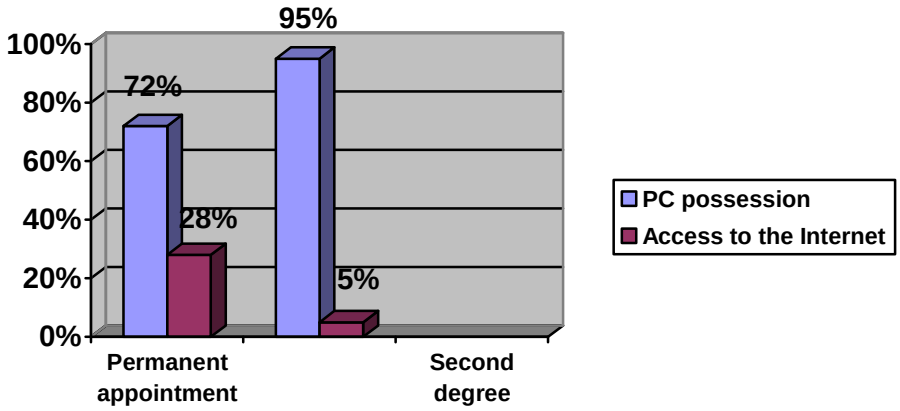
3. Teachers' knowledge was related to the PC possession at home and with their access to the Internet. 73% out of the teachers from the first category and 95% from the 2nd category have their own PC, but only 28%, respectively 5%, have access to the Internet (table no. 6, graph no. 6)

Table no. 6.

PC possession and access to the Internet

Items	Permanent appointment	Second degree
PC possession	**72%**	**95%**
Access to the Internet	**28%**	**5%**

Graph no. 6. PC possession and access to the Internet



Because most of the teachers were in their first years of professional activity, the PC possession could be related to their life level and their financial resources. But, at the same time, we can notice that most of the teachers from first category have access to the Internet, despite their knowledge in the previously mentioned softwares.

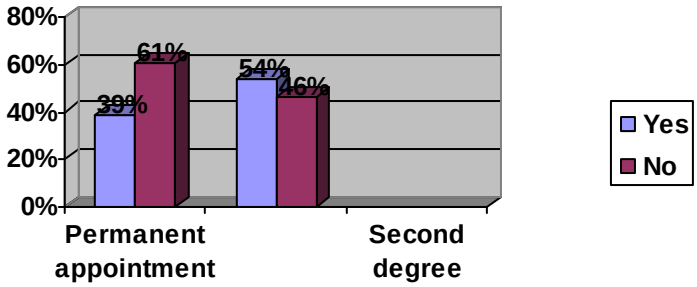
4. An important aspect that emphasizes teachers' ability in using the computer for communication purposes is their routine in using the e-mail. We think this is a pre-requisite to participate in an on-line discussion, to share good practices. From their answers, we found out that 39% out of the teachers wanting to obtain their permanent appointment and 54% their second degree knew how to use this communication form (table no. 7, graph no. 7).

Table no. 7.

Use of e-mail as a communication form

Use of e-mail	Permanent appointment	Second degree
Yes	39%	54%
No	61%	46%

Graph no.7 Use of e-mail as a communication form



We can notice the same advantage for the more experienced teachers.

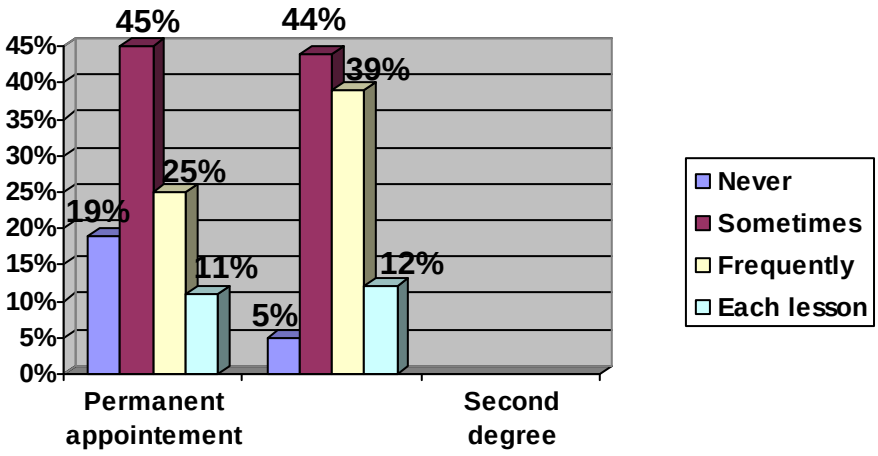
5. As for the lesson/program design by the use of ICT, we found out that 25% out of the teachers from the first category and 39% from the 2nd category use frequently the ICT tools (table no. 8, graph no. 8).

Table no. 8.

Use of ICT in the lesson design

Use of ICT	Permanent appointment	Second degree
Never	19%	5%
Sometimes	45%	44%
Frequently	25%	39%
Each lesson/program	11%	12%

Table no. 8. Use of ICT in the lesson design



The number of teachers that have never used ICT in physical education activities or in leisure programs is greater in the first category.

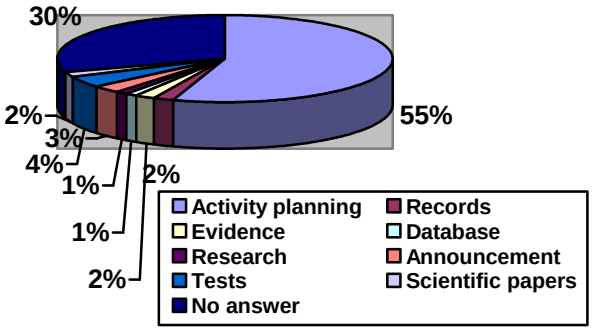
6. To evaluate the direction for the use of ICT in physical education/leisure programs, we introduced an open answer. The results are presented in the following table and graph (table no. 9, graph no. 9).

Table no. 9.

Use of ICT in the lesson design

Answers	Permanent appointment	Second degree
Activity planning	55%	85%
Records	2%	2%
Evidence	2%	1%
Database	1%	1%
Research	1%	3%
Announcement	3%	0
Tests	4%	0
Scientific papers	2%	2%
No answer	30%	6%

Graph no.9.Use of ICT in lesson design



As far as we can see, the main application for ICT in physical education, leisure program and sport is the document planning. Although there are many other applications, physical culture specialists didn't use them in their lessons/programs, but only in the activity organizing.

Conclusions and proposal

By analyzing the answers, we can draw the following conclusions:

1. Teachers' interest in the ICT tools is increased, but not all of them participated in a training course. So, we think it is very important that higher education institutions should organize post-university courses meant to subsequently develop on-line courses. This type of course is more efficient from the professional, social and financial points of view.
2. The participation in ICT courses during the first years of professional training can assure the basic skills in PC using and can enable their applying when teaching different exercises or programs.
3. The low income level, especially for the begginer teachers, still represents one of the most important difficulties in using ICT on a large scale, both in learning and teaching. Too many teachers cannot afford a PC, so they cannot use these tools to design their lessons.
4. The practical character of physical education and sports doesn't encourage specialists to use ICT. Only few of them use ICT to prepare their lessons/ programs and even less of them to develop a lesson/program. Of course, there is another problem related to the material resources in each school. Besides, we are worried about the idea that physical education means only motor skills and doesn't have a content appropriate for the use of ICT.
5. In physical culture and sports, a continuous education course is not acknowledged. Of course, the same practical aspect can be invoked, but, at the

same time, being a teacher means having many competencies - relationship, communication, psycho-pedagogic and ICT area ones. So it's strongly recommended that the specialists from our area should make supplementary effort to become more familiarized with the ICT world, passing a long-life learning course.

Finally, we appreciate that the hypothesis is confirmed in the case of the teachers in their first years of career. The modernization of teaching tools will impose a permanent review of the curriculum for all the training programs.

REFERENCES

Grigore, V., Stănescu, M., Bota, A., Mitrache, G., Popescu, M., *Aplicații ale TIC în domeniul educației – provocări pentru profesiunea de cadru didactic.* (Material adițional de învățare realizat în cadrul proiectului Comenius "***Fiste – a future way for in-service teacher training across europe"***) ANEFS, 2005

Hall, A., Leigh., J., *ICT in physical education*. În: http://pearsonpublishing.co.ukeducation/catalogue

Klockner, K., *Computer supported cooperative learning based on shared workspaces.* În: The 1st research Workshop of EDEN, 2000

http://fiste.ssai.valahia.ro

National Curriculum in Action – Physical Education. http://www.ncaction.org.uk/subjects/pe/ict-lrn.htm

Polechowa, P., Willumsen, J., *Intercultural education and cooperative strategies in a learning environment of an open classroom*. În: The 1st research Workshop of EDEN, 2000

Using TIC in physical education. In: http://curriculum.becta.org.uk/docserver.php

http://www.TICadvice.org.uk/index.php

L'OPTIMISATION DES FACTERS PHISIQUES EN BIATHLON

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REZUMAT. Optimizarea Factorilor Fizicii In Biatlon. Pregătirea fizică are un rol deosebit de important în procesul de pregătire, determinând în ultimă instanţă randamentul în concursuri. Principalele obiective ale pregătirii fizice în antrenamentul biatloniştilor sunt:

- educarea calităţilor motrice de bază şi specifice pentru schiul de fond (tehnica liberă) şi biatlon;
- educarea capacităţii generale de lucru a organismului;
- creşterea capacităţii de efort a organismului în vederea realizării unui consum de oxigen ridicat;
- creşterea nivelului de pregătire fizică multilaterală;
- angrenarea în efort a grupelor musculare care sunt solicitate în alergarea cu arma în spate şi în menţinerea poziţiilor de tragere cu arma în poligon.

Cele două tipuri de pregătire fizică, generală şi specifică, sunt diferit implicate în antrenament, în funcţie de perioada în care se desfăşoară acesta.

În prima parte a perioadei pregătitoare, pregătirea fizică generală are un rol foarte important, care se diminuează pe măsură ce ne apropiem de sfârşitul acesteia în favoarea pregătirii fizice specifice, astfel încât în etapa precompetiţională ponderea cea mai mare o are pregătirea fizică specifică.

Pregătirea fizică generală contribuie la creşterea capacităţii de lucru a organismului şi stimulează dezvoltarea calităţilor motrice cele mai solicitate în biatlon: forţa, viteza rezistenţa şi coordonarea.

La preparation phisique a un role tres important dans le processus de preparation, en determinant au dernier moment le succes dans les concours. Les objectifs principaux de la preparation phisique dans l'entrainement des biathlonistes sont:

-l'education des qualites motriques de base et specifiques pour le ski de fond (technique libre)et biathlon

-l'education des capacites generales de travail de l'organisme

-l'accroissement de la capacite d'effort en vue de realiser un consum d'oxygene eleve

-l'accroissement du niveau de preparation phisique multilaterale

-l'engrenementen effort des groupes musculaires qui sont sollicitees en course avec le fusil au dos et aussi pour la maintenance des positions de tirage en polygone

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Les deux types de preparation phisique, generale et specifique sont impliques differamment dans l'entrainement en fonction de la periode dans laquelle elle se developpe. Dans la premiere partie, la preparation phisique a un role tres important qui se diminue fur au mesure on nous approche de son fin a la faveur de la preparation specifique, de sorte que dans l'etape avant une competition une proportion plus grande en a la preparation specifique.

La preparation phisique generale contribue a l'augmentation de la capacite de travail de l'organisme et elle stimule le developpement des capacites motrices les plus sollicites en biathlon:la force, la vitesse, la resistence et la coordination.

LA RESISTENCE

Le biathlon fait partie des disciplines sportives dans laquelle la resistence determine ou limite le progres de la performance. En biathlon la resistence a un caractere aerobe avec une capacite aerobe de 70-75%.

Developpement de la resistence

L'entrainement de resistence contient, en general des efforts de duree longue, un volum grand, avec une intensite moyenne. Une frequence de 4-5 entrainements par semaine est la plus indiquee pour l'ameliorisation de la capacite aerobe.

Une deuxieme forme de developpement de la resistence est representee l'entrainement mixte aerobe-lactacidequi represente un moyen important dans la preparation d'un concours. Cette forme contribue au developpement des excitations qui menent a l'accroissement de la resistence et influence:

-le developpement de la vitesse individuelle, de la volonte au niveau le plus haut

--l'enrichissement de l'activite d'action economique des systhemes biologiques, favorable aus niveaux hauts de vitesse

-l'augmentation du consum maxim d'oxygene

L'augmentation de l'effort au cadre de l'entrainement de resistence se realise par:

-L'accroissement de la duree des unites d'entrainement

-l'accroissement du nombre d'entrainements journaliers

-l'utilisation du chargement de resistence avec des rythmes inversifs

-la modification de l'entrainement de resistence aerobe par l'echangement de la vitesse et le profil du terrain

Sur le plan internationnal l'evolution de l'entrainement de resistence a la tendance de plus en plus vers l'application combinee des deux composantes, au long de l'anneee de preparation

L'entrainement de resistence aerobe contient tous les chargements de duree longue avec un volum grand pour l'unite d'entrainement, jour et ans, carracterises par une intensite moyenne. Il est efficient seulement dans le cas quand le chargement est aborde avec une intensite de sorte que:

-l’entrainement puisse etre repete, en permanence dans un temps relativement court sans avoir besoin d’entrainement de compensation

-on ne rennonce pas aux proceessus metaboliques aerobes

-les reactions cardio-vasculaires soient ecartes de la capacite individuelle maxime (frequence cardiaques avec 30-40 battements)

En ce qiu concerne l’intensite on remarque le fait qu’une intensite de 80%donne en ansemble les meilleurs resultats. Au developpement de la resistence on a en vue le fait qu’un haut niveau a l’efficience envers la capacite de la performance seulement dans la situation dans laquelle la resistence se developpe en meme temps avec la force et la vitesse.

Des particularites pour l’utilisation des methodes de developpement de la resistence en biathlon:

COURSE DE DUREE-peut accomplir au cadre de l’entrainement les taches suivantes:

- Avec le but regenerateur –apres les concours ou a la fin des entrainements
  -pendant 30-60minutes
  -la vitesse autour de 50%des possibilites des sportifs
  - le pouls ne depasse pas 120-140 battements par minut
- Avec le but d’education de la volonte
- Pour enrichir la capacite aerobe

L’ENTRAINEMENT ALTERNATIF-se caracterise par le changement permanent du tempo de la course. Le volume des distances parcourses avec une intensite augmentee assure le developpement se la resistence specifique et les portions troves entre ces distances prend un caractere de repos actif.

L’ENTRAINEMENT AVEC DES INTERVALLE –s’organise sur des distances courtes, medium et longues

Particularites des methodes de developpement de la force

Pour obtenir des meilleurs resultats sportives aux concours de biathlon il faut tenir compte de niveau de developpement des certaines qualites de force des sportifs. Pendant la course, le skieur repete plusieurs fois les mouvements de meme type en les executant avec une force optimale, ce qui fait que son resultat depend plus de la duree de maintenance de la force que de son degre. La technique libre utilisee dans les courses de biathlon sollicite une force plus grande que celle classique. Les principaux criteres pour realiser un entrainement efficient de force sont:

1. vaincre la resistence haute specifique aux grands concours
2. approchement des moyens d’entrainement de la structure des exercices utilises en competition;
3. developpement des groupes musculaires sollicitees en course
4. developpement des capacites psichiques

5. la combinaison de l'entrainement de force avec celui qui assure le developpement de la mobilite, de la souplesse et de la capacite de relaxation. La duree d'un entrainement est de 90-120min.

Le developpement de la force:

Dans la periode de travail sans neige(a sec)on utilise:

-Exercices dynamiques

-exercices avec des poids-halteres, ballons medicinaux, sac avec sable

-course sur terrain varie

-jeux spotifs et de mouvement

-sauts differents

-patinage, roller

-entrainement en circuit

On recommande l'utilisation des exercices de force dans des rythmes differents jusqu'au refus avec un nombre grand de repetitions.

Dans la periode de travail sur la neige on continue la preoccupation pour le developpement et la maintenace de la force. On utilise -: monter des pantes avec des inclinations differentes, escaliers, ciseaux, en accentuant l'activite des pieds et des bras

-deplacements avec les ski par la neige en poussat avec les bras et les pieds

-deplacements dans le style libre sur des pantes declives

Apres chaque etape l'entreneur doit connaitre les progres realises de chaque sportif.

La resistence en regime de force

Les sollicitations auxquels il est soumis le biathloniste ont en general un caracter de resistence en regime de force. Elles permettent au sportif de realiser actions en force a chaque cycle de mouvement, en etroite liason acev sa capacite de resistence tout au parcours de l'epreuve de concours.

Le niveau de resistence en regime de force depend en grande mesurea de:

- l'adaptation des muscles a l'effort respectif
- l'accroissement de la force maxime
- le stade de developpement de la resistence generale

Particularites des methodes de developpement de la vitesse

Le travail pour ce type de developpement et sa maintenace a en vue la creation de la reserve de vitesse sans laquelle on ne peut pas obtenir des bons resultats sur les distances de concours.

La vitesse, se developpe en correlation avec la force et la resistence par:

-le parcours repete, avec une intensite augmentee des distances courtes

-les distances tres courtes jusqu-a 200m s'utilise aux lecons de preparation phisique generale

BIBLIOGRAPHIE

Epuran M., *Psihologia Educaţiei Fizice şi Sportului*, Bucureşti, 1994

Forţu Alexandru, *Schiul de fond*, Editura Stadion, 1973

Monjosov V. N., *Antrenamentul schiorilor fondişti*, Moscova. Fizicultura şi sportul 1986 (traducere)

Niculescu M, *Metodica Cercetării Ştiinţifice*, Bucureşti, 2001

Pelin Florin, *Schi fond*, Editura Printech, 2001

C. N. E. F. S. , F. R. S. B., *Noua tehnică de schi fond*, vol. III, Bucureşti, 1987

Cătună Cristian, *Regulamentele concursurilor de schi şi biatlon*, Editura Fundaţiei „România de Mâine", 2000

Bota Cornelia, *Fiziologia Educaţiei Fizice şi Sportului*, Bucureşti, 1994

XXX, I. B. U. Biathlon Calendar 2004 – 2005;

XXX, Biathlon World numerele 1, 2, 3 -2004

XXX, Criterii, probesi norme de selectie in biathlon C. C. E. F. S. Bucuresti 2002

THE IMPACT OF THE SUPPORT AND COGNITIVE BEHAVIORAL PSYCHOTHERAPIES ON THE STRESS INDUCED BY THORAX SURGERY AT FEMALES

- Case study -

ISABELA LOZINCĂ[1]

REZUMAT. Spre deosebire de bărbaţi, femeile au o constituţie mai fragilă din punct de vedere nu numai fizic (somatic) ci şi psihic (preponderent emoţionale).

Ipoteza: utilizarea psihoterapiilor suportivă şi cognitiv comportamentală, structurate în funcţie de dimensiunea somato-psihică specific feminină, vor anula stresul indus de o intervenţie chirurgicală toracică.

Psihoterapia a fost structurată astfel:

- obţinerea de informaţii, definirea problemei şi identificare a aspectelor pozitive;
- stabilirea rezultatelor dorite;
- explorarea alternativelor şi confruntarea pacientei cu incongruenţele.

Obiectivele propuse şi mijloacele de realizare:

Preoperator:

- iniţierea psihoterapiei îndreptată atât asupra pacientei cât şi asupra familiei (soţului);
- modificarea gândurilor negative şi a comportamentelor aferente legate de diagnostic prin: explicarea patologiei şi tehnica rezolvării de probleme
- asigurarea complianţei pentru tratamentul chirurgical şi pregătirea intervenţiei, explicarea rostului şi necesităţii ei; prezentarea sălii de operaţie şi a anexelor sale însoţită de explicaţii privitoare la operaţia propriu-zisă şi manevrele premergătoare acesteia,
- modificarea mecanismelor defensive de apărare prin: terapie suportivă (încurajare, sugestie, sfat, recompense emoţionale) şi terapie cognitiv comportamentală ce a cuprins: tehnicile de restructurare cognitivă, rezolvarea de probleme şi strategii alternative de adaptare la stres.

Postoperator:

- reducerea simptomatologiei specifice prin:
  - terapia durerii (durerea „operaţiei” şi durerea „tuburilor de dren”) – descompunerea ei în elemente componente pentru ca pacienta să înţeleagă mai bine simptomele şi factorii care le exacerbează

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- utilizarea combinației: terapie suportivă, tehnica de control a respirației, relaxare, masaj, mobilizare activă,
- modificarea opiniei eronate a pacientei despre sine şi lumea înconjurătoare prin tehnica rezolvării de probleme
- rezolvarea unor probleme limitate, scăderea conduitei maladaptative prin tehnici de accelerare (tehnica amorsării directe a procesării informaționale); decelerare a comportamentului (tehnica penalizării)
- modificarea mecanismelor de coping dezadaptativ emoțional – control şi gestionare a stării de distres: tehnica de inoculare a stresului.

Rezultatele obținute la finalul perioade de spitalizare vin în sprijinul ipotezei de plecare:

- Tendința inițială a pacientei este abordarea unui stil evitativ de coping cognitiv, mecanismele implicând: comportament de evaziune din situația stresantă (indecizie cu privire la operație), prelucrare selectivă a informației cu valență negativă prin distorsiune, reinterpretare a ei într-un cadru ce-i diminuează această valență precum şi neutralizarea efectelor stresorului biologic însă prin utilizarea de analgezice. La finalul perioadei de spitalizare tendința pacientei a înclinat spre abordarea unui stil confruntativ, respectiv adoptarea de atitudini rezolutive pentru situații problematice (evaluare prin scala SEMCA)
- Anxietatea (evaluată cu ajutorul Scalei de Anxietate Hamilton) prezintă cotă ridicată la internare ⇒ anxietate generalizată majoră, explicabilă prin modalitatea pacientei de a percepe „amenințarea” operației, eventualele „complicații” intraoperator, prezentând simptomatologie exacerbată în plan psihic datorită gândurilor cu caracter disfuncțional. La externare anxietatea devine minoră.
- Din punct de vedere a stării depresive (evaluată cu ajutorul Inventarului de Depresie Beck), la internare aceasta este moderată, la externarea fiind în remisie sau altfel spus devenind stare normală, persistând doar tensiunea determinată de expectanțele privitoare la capacitatea de readaptare la cotidian.

Women have a more fragile physical construction not only from a physical point of view (somatic) but also from a psychical one (they are more emotional). The reasons for that are mainly constitutional, along with several factors that amplify it, being also stress vulnerable. We can mention here:

- Endocrine factors – represented by the hormonal constellations specific for puberty and climacterium, both ampler (in intensity an duration) than men’s, also including in this field the psychical implications of the above-mentioned hormones. Besides, birth and lactation are an apanage of women, leading to an enrichment and complex leaven of woman’s inward life, accomplished by the inedited experience of maternity. The very same moments can also be the source of negative elements in the form of various and intense ways of stress that man can never experience.

- Biographical stress factors in the woman's lifestyle, respectively the combination of professional activity with the domestic one, especially within certain socio-cultural groups as a result of misunderstanding the role of woman's emancipation. This additional overstressing – through domestic activities – as compared to man's constitutes either a source of various ways of stress, or the cause of an insufficient recovery from professional stress.

As far as pathology is concerned, the existence of some differences is justified in the context of some specific psycho-endocrine notes, corroborated with the existence of the psychical stress that is specific as well. The following are taken into consideration:

- The exclusively feminine existence of obstetrics–gynecology pathology, endocrinological and even oncological.
- The prevalence of psycho-somatic disturbances in relation to the masculine sex,
- The predilection to some groups of disease: endocrine, biliary diskinesies, urinary infections, allergies etc.

All these, in the case of women, result in a higher frequency of internment as compared to men, existing an additional reason as well related to the social prejudice, that of man's higher responsibility for supporting the family.

From a relational point of view there is also a variety of particularities that I had to take into consideration, such as:

- Emotional fragility
- Sometimes excessive pudicity
- The relatively high frequency of some somatic-visceral correlations of emotions, relatively capable of confusing and even „suppressing" sometimes the clinical panel of the main disease,
- The lower intensity of the pain and the more emphasized somatic-psychic backstroke of the symptoms of the disease.
- The inherent influence of the disease by the endocrine moments (especially by menstruation),
- The sexual conditions (that must be examined) of some somatic and psychic symptoms, more important that in the case of men, that are most often ignored are carefully hidden.
- The dependence on the doctor, much stronger than in the case of male patients.
- The frequent presence of the husband as a protective factor adherent to the one performed by the doctor.

The patient L.A., female, born in 10 of Mars 1971, 31 years, economist, release in May with the diagnostic: „Abces of the pulmonary left inferior lobe. Scarf left basal piosclerosis. Left posterior, lateral and basal pleural cystic empiem; Parietal and visceral regional pachy-pleuritis" she is interned back for another evaluation of the diagnostic and a possible surgical intervention.

She is operated after the evaluation: left inferior lobectomy with the toracotomy lateral incision in the left intercostals „V' space.

The hypothesis was the following:

The use of the supportive and cognitive-behavioral therapies structured according to the specifically feminine somatic-psychic dimension will neutralize the stress of a thoracic surgical intervention.

The general structure of the therapy was performed as follows:

- anamnesis/interview
- build-up of the working relation
- physical therapy
- psychotherapy:
  - gathering of the information
  - establishment of the desired results
  - exploration of the alternatives and confrontation with the incongruence

Evaluation methods:

- The evaluation scale of the cognitive defense mechanisms (ESCDM) for the establishment of the used mechanism, evaluation and changes tracking.
- The Hamilton Anxiety Scale (HAS) – for showing the behavior in specific anxiety and stress situations from the Pulmonary Surgery Unit and the effect of the applied therapies.
- The Beck Depression Inventory (BDI) – for signaling the presence and severity of the depressive symptoms and their evolution during the hospitalization.

Objectives and used means:

Before surgery:

The patient is interned a second time in the surgery unit which that determines her to make some dysfunctional rules and affirmations, understanding the situation in a wrong manner.

I. The problematic thoughts are linked with what can happen during the operation (What if they did not operated me the first time, that means it is a severe problem. What if there will appear complications?)

- The initiation of the psychotherapy was targeted for the patient and her husband
- The modification of the defensive behavior – that is a result of the patient's intention to avoid trauma (to decrease the stress reaction) by reducing its participation and affective tension.
  - Supportive therapy (encouragement, suggestion, advice, emotional reward)
  - Behavioral techniques according to the classical conditioning principle

- Modification of the negative thoughts and behaviors concerning the diagnostic by explaining the pathology and problem-solving technique.
- Ensuring the compliance for the surgical treatment and intervention preparation, explanation of its role and necessities.
- Presentation of the surgery room and its annexes and explanations regarding the surgery and the preparation maneuvers
- Modification of the defensive mechanisms by cognitive-behavioral therapy that includes the cognitive restructuration techniques, problem-solving techniques and alternative strategies of adaptation to stress.

After surgery:

II. *immediately* – the problem: the pain with mental deformation of reality trough interference (with rash deductions) – „if the pain does not disappear soon, that means there are complications".

- Decrease of the specific symptoms by:
  - therapy of pain (the „surgery" pain and the „drainage tubes" pain) its decomposition in elements in order to give to the patient the possibility of understanding better the symptoms and the factors that exacerbates it and the use of the supportive relaxation, massage and active range of motion combination;
  - the respiration control techniques
- Modification of the wrong opinion about herself and the environment trough problem-solving technique.
- Limited problem solving, decrease of non-adapted behavior trough acceleration techniques (direct information processing decrease technique); deceleration of the behavior (penalty technique).
- Modification of non-adaptative emotional coping – control of the distress status; stress inoculation technique.

III. *early and late* – the problem: the in esthetic aspects generated by the localization of the intervention.

- Modification of the wrong opinion of the patient about herself and the environment by the problem-solving technique
- Modification of the non-adaptation emotional coping, control of the distress state; stress inoculation technique

Results and conclusions

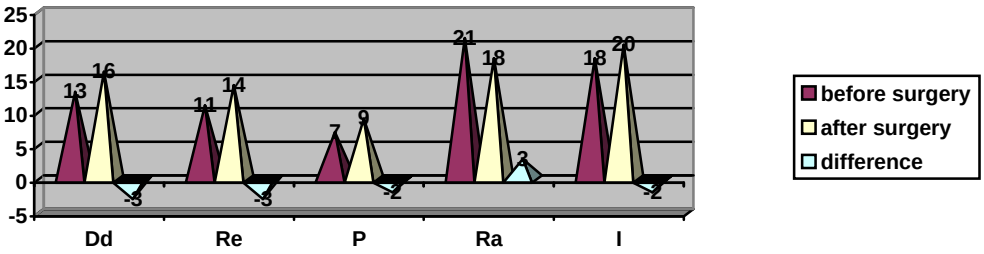
THE EVALUATION SCALE OF COGNITIVE DEFENSE MECHANISMS (ESCDM)

Table 1.

The global and specific ESCDM cotes obtained before and after surgery

Phase	Global	Defensive Denial	Repression	Projection	Rationalization	Intellectualization /apartness
Before surgery	69	13	11	7	21	18
After surgery	67	16	14	9	18	20
The difference	2	-3	-3	-2	3	-2

Diagram 1 The evolution of the specific SCDM number



Dd – defensive denial, Re – repression, P – projection, Ra – rationalization, I - Intellectualization

The initial tendency of the patient is to have a cognitive avoiding coping style (the global value is 69). These mechanisms involve an escape from the stress situation behavior (indecision regarding the operation), selective use of the information with negative valence by distortion, re-interpretation in a framework that diminishes this valence (rationalization- 21, intellectualization – 18) and the neutralization of the biologic stressor effects (the use of pain-killers). The cognitive resources are use for processing the neutral or positive information.

At the end of the hospitalization period, the patient's tendency moved to a confrontational stile trough the decrease of the global number at the value of 67 and solving attitudes at the problematic situations.

There are some important changes in the framework of the specific values:

- Defensive denial (from 13 to 16) trough the increase with one value of the items 1 – minimization of the negative aspects of the future situations; 6 – minimization of the negative aspects of the present situation and 16 – behavioral denial references.
- Repression (from 11 to 14) trough the increase with one number of the items 12 and 17 – unaware repression; and 22 – the memory of her own reactions felt during the painful moments
- Rationalization (from 21 to 18) with important modifications of item 3 – positive reassessment of the traumatic situation – from 5 to 2.

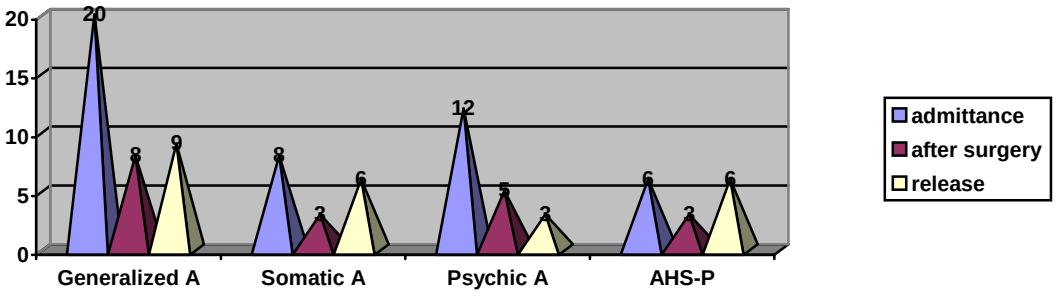
THE ANXIETY HAMILTON SCALE (AHS)

Table 2.

The evolution of the AHS cotes at the admittance/after surgery/release for the generalized, somatic, psychic anxiety and the panic attack

Anxiety	Admittance	After surgery	Release
Generalized A.	20(major anxiety)	8 (minor anxiety)	9 (minor anxiety)
Somatic anxiety	8	3	6
Psychic anxiety	12	5	3
AHS – P (panic)	6 (the DSM criteria are not fulfilled)	3 (the DSM criteria are not fulfilled)	6 (the DSM criteria are not fulfilled)

Diagram 2. Evolution of the anxiety



At the initial administration of the AHS scale, the patient presented a high value when she was interned – 20 - which demonstrates the existence of a generalized major anxiety, 8 for somatic and 12 for psychic. This can be explained by her way of understanding the „threat" of the operation and the possible „complications" during the operation. She presented an exacerbated symptoms from a psychic point of view, due to the dysfunctional thoughts.

After the application of the therapies that emphasized the psychotherapy we obtain the following things:

- Minor values after surgery for all types of anxiety: 8 for generalized (the DSM IV criteria are not fulfilled); 5 for psychic; 3 for somatic expressing the physical and emotional exhaustion but also the effect of the somatic training modalities (physical therapy before surgery) and psychic training modalities (support and cognitive-behavioral psychotherapy).
- Minor values of anxiety at all types, when she lived the hospital; 6 for generalized (the DSM IV criteria are not fulfilled); 6 for psychic and 6 for somatic.
  AHS – P the panic attack misses before or after the surgery, and the values are the followings: 6 at hospitalization, 3 after surgery, 6 at the check-out and they do not fulfill the DSM IV criteria.

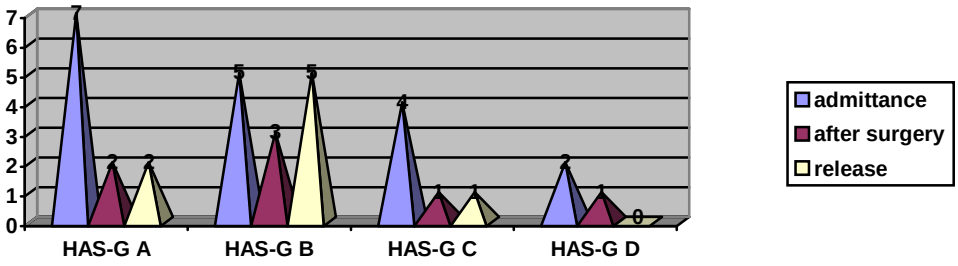
Table 3.

The evolution of the AHS-G cotes at the admittance, after surgery and release for the 4 criteria A, B, C and D.

Anxiety	Admittance	After surgery	Release
ASH – G A.	7	2	2
ASH – G B.	5	3	5
ASH – G C.	4	1	1
ASH – G D.	2	1	0

AHS – G A = motor tension**,** AHS – G B = neuro vegetative troubles**,** AHS – G C = fearful waiting
AHS – G D = hiper-vigilant exploit of the environment**.**

Diagram 3. Evolution of the four criteria of AHS-G



AHS – G A = motor tension**,** AHS – G B = neuro vegetative troubles**,** AHS – G C = fearful waiting
AHS – G D = hiper-vigilant exploit of the environment**.**

According to the diagram and table 3, the evolution of the 4 criteria, A, B, C, and D trough which the generalized anxiety acts are the following:

- At the admittance, the motor tension is predominant – 7, followed by the neuro-vegetative troubles – 5, fearful waiting – 4 and hyper-vigilant exploit of the environment – 2.
- After surgery, the neuro-vegetative troubles are predominant – 3, (with the increase of the symptoms of autonomous nervous system – 2) and than the motor tension – 2, and one value for fearful waiting and hyper-vigilant exploit of the environment due to the effects of the surgical intervention, after surgery deficits and the special situation of the Intensive Care Unit.
- At the release the neuro-vegetative troubles are predominant – 5, (with the increase of the somatic sensorial symptoms – 2) and than the motor tension – 2, and one value for fearful waiting and zero for the hyper-vigilant exploit of the environment due to the check-out and the expectations concerning her capacity to readjustment to the daily life.

BECK DEPRESSION INVENTORY (BDI)

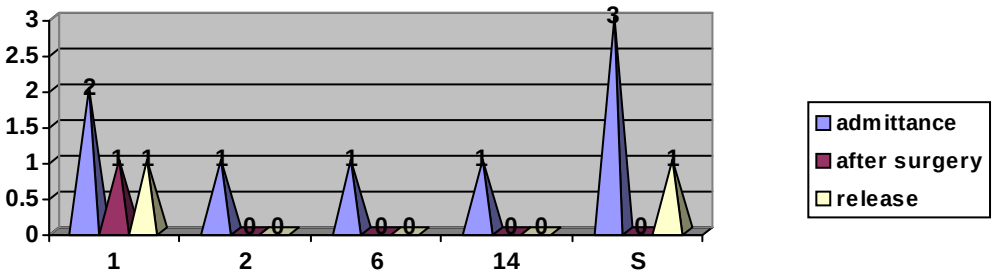
Table 4.

The evolution of the BDI cotes at the admittance/after surgery/release

Depression	Admittance	After surgery	Release
Global value	16 (moderate depression)	3 (depression in remission)	4 (depression in remission)
Item 1	2	1	1
Item 2	1	0	0
Item 6	1	0	0
Item 14	1	0	0
Somatic depression	3	0	1

Item 1 – sadness; 2 – pessimism; 6 punishment feeling; 14 self-image modification

Diagram 4. Evolution of the BDI cotes at the items 1, 2, 6, 14 and somatic



Item 1 – sadness; 2 – pessimism; 6 - punishment feeling; 14 - self-image modification, S - somatic symptoms

There was a moderate depressive state at the hospitalization (with a total score of 16). At the categories symptom – attitude that we calculated the scores were as follows: 2 for item 1 – sadness; 1 for item 2 - lack of hope (pessimism); 1 for item 6 – need of punishment; 1 for item 14 – negative self-image. Some categories referring at the biological features and calculated together as somatic symptoms obtained the score of 3 (1 for the items: 16 - insomnia; 18 – lack of appetite and 20 - hypochondria - negative somatic preoccupations).

As for the anxiety, the explanation of these scores can be the way of perception the „threat" of the operation and the possible „complications" during the operation. The symptoms are exacerbated psychically more than somatically, due to the dysfunctional thoughts.

After surgery the physical and emotional exhaustion associated with the combined therapies can be seen from the results obtained, value of 3 for – the depression in remission (normal state) with score zero at the items that represent the somatic symptoms.

The minor value is kept at the check-out – 4 depression in remission (normal state) with an extra value of 1 at the item 20 – hypochondria (negative somatic preoccupations), thing that show the tension determined by the expectations concerning the adaptation to the daily life capacity.

REFERENCES

* Lozincă, I (2005) – *Dimensiunile psihoterapeutice în chirurgia pulmonară.* Editura Universității din Oradea.

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RISK OF FALL AMONG THE ELDERLY: SELF-REPORTED WALKING AND BALANCE TESTING

MARILENA KORY-MERCEA[1]

REZUMAT. Riscul de cădere la vârstnici: cum este perceput individual mersul de către vârstnici şi testarea echilibrului lor. Accidentele prin cădere reprezintă o problemă importantă de sănătate la vârstnici. Atât testarea echilibrului, cât şi înregistrarea funcțiilor raportate de către pacienți pot fi potrivite de a preveni accidentele în viitor.

Material şi metodă. Funcția mersului (raportată de pacient) a fost studiată într-un studiu de cohortă efectuat pe 307 pacienți selectați aleator (femei de 75 ani şi peste, care locuiau acasă). Femeile respective au efectuat mişte teste atât pentru mers, cât şi pentru funcția mersului, iar după aceea au fost urmărite pe o perioadă de 1 an, urmărindu-se dacă au existat accidente prin cădere şi leziuni consecutive acestora.

Rezultate. 155 din 307 femei au căzut în cursul perioadei de observație şi s-au înregistrat 308 accidente. Dintre accidente, 13 % s-au soldat cu fracturi. A fost identificat un index care a constat din 5 întrebări anamnestice, cu ajutorul factorului de analiză.

Scorul total pentru acest index al tulburărilor de mers a fost într-o bună concordanță cu testele clinice de echilibru. Un rezultat mai slab la indexul tulburărilor de mers a indicat un risc mai mare de accidente prin cădere şi pentru fracturi prin cădere în anul următor.

Discuții. Întrebările simple anamnestice dau informații utile asupra riscului de accidente prin cădere la femeile în vârstă.

Falls are a great health problem in elderly and often result in fractures and other severe injuries, especially in women. The observed incidence of lesions during the life shows that fall accidents are between 21-62 %, the incidence grows with the advance in age.

Examination of elderly who fallen or complain of being unstable reveals that is important to identify those at risk of fall-related injuries, so that could be set a preventive initiative.

Less are known about how the clinical tests give results which are in concordance and to which extent they are better than data gathered only anamnestically, in order to identify the patients with a higher fall risk. The purpose of this study was to study the degree of concordance between the balance tests and self-reported walking, together with the predictive ability of this report on risk of accidents in elderly women who live at home.

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Material and method

Women of 75 years and over, which live at home, were randomly selected from the civil population records of Gruia Quarter in Cluj-Napoca and were included in a cohort study.

From 400 selected from the list, 105 died, moved or changed to asylum, 88 didn't accept to take part in study 27 were unable to come to examination by own means, 6 were unable to stand up for more than 60 seconds and 11 cognitive disorders. Eight of women died or moved to asylum during the follow-up year and 12 had problems with their civil data.

Data from 151 women were thus available for study after 1 Year. The average age was 79.8 years (span of 75-91 years of age). The examination was accepted by the regional board of medical research ethics or Romanian Physicians' College.

Walk and balance as self-reported by patients

The participants got 8 structured questions, concerning of troubles of walk indoor and outdoor, if they use help devices for walk (stock or walking frame etc.) indoor or outdoor, significant balance disorders, fear of fall, number of falls in the last 6 months and dizziness.

Clinical tests for balance and walking

Following tests on balance and walking were performed:

- Describing an 8 by walking. The participants walked slowly along two circles with a ray of 0.8 and 1 m. It was recorded the number of errors (when they stepped on circle border).
- Standing in a foot. The participants stood on a foot as long as possible.
- Standing with the feet on a line. One of feet was behind the other. The result depended on ability of participants to maintain the position for 30 seconds.
- The step test. It was measured the ability to step on a box with variable height without using the balustrade and it was recorded the height of the highest box.
- Standing up from the floor. The test recorded if the participants could or not to stand up alone from the floor.
- The functional domain. The participants spanned the hands as large as they could along a horizontal line on a wall. The distance between the starting and final position was noted (between the hanging hands and maximum spanned hands).
- Measuring the time in "up and go test". The participants were asked to stand up from a chair, walk 3 meters as fast as possible, return, come back and sit. The time was measured.

- Walking speed. The participants were asked to walk 29 meters in a corridor with casual shoes, in relaxed walk, and then as fast as possible. The speed of walking was noted.

Main message

Half of women over 75 years, which live at home, fall at least once during a year, and 12.7 % from falls result in fractures.

The simple anamnestic questions could contribute to identify the highest risk of fall and fractures.

The speed of walk and the ability to step the stairs are clinical tests with high predictive value

Table

The anamnestic questions for walking and balance

Question	Coding and distribution of answers
Did you have troubles in maintaining the balance during walk?	1: No 183 (59, 6 %) 2: Yes 124 (40,4 %)
Are you afraid of fall?	1: No 111 (36.2 %) 2: A little bit fear 62 (20.2 %) 3: I'm very fear 134 (43.6 %)
Is dizziness a problem for you?	1: Yes 78 (20.2 %) 2: No 229 (79.8 %)
How many times you fallen during last 6 months?	1: twice or more 61 (19.9 %) 2: once 74 (24.1 %) 3: never 172 (56 %)
Do you have troubles to walk indoor?	1: Great troubles 5 (1.6 %) 2: Light troubles 34 (11.1 %) 3: No trouble 268 (87.3 %)
Do you have greater troubles to walk outdoor than indoor?	1: Great troubles 18 (5.9 %) 2: Some troubles 80 (26.1 %) 3: No trouble 209 (78 %)
Do you use help device in walking (stock, walking frame) indoor?	1: Yes 32 (10.4 %) 2: No 275 (89.6 %)
Do you use help device in walking (stock, walking frame) outdoor?	1: Yes 78 (25.4 %) 2: No 229 (74.6 %)

The tests were done by author in Physiology Laboratory of Faculty of Physical Education and Sport in Cluj in the same moment when the anamnestic tests were done.

The falls

The falls were recorded on 1 year period using a fall calendar given to each participant. The calendar was returned every 3 months. The participants were asked to fill the calendar daily, to mark the dates when casual falls took place and to specify if those falls resulted or not in a fracture. When the accident by fall wasn't reported, the participant was contacted by phone or a detailed history of falls was noted. Also the participants who didn't return the calendar were contacted.

Because an isolated fall is often seen as some casual event, while 2 or more falls could be seen as a fall trend, I separated the participants in two groups: those who fallen once or never and those who fallen at least twice during the follow-up period.

Results

The data gathered from the anamnestic questions indicated that the same basic concept was measured. I used in the analyses the score sum for 5 of the questions. This sum was called self-reported walking index and it was between 5 and 12, the smallest score indicating the higher degree of walking troubles.

The questions related with walking disorders. The following questions are concerned the balance and walking. I ask to be answered every time the patient experiences it. If the patient is temporarily unable to walk without helping means, he/she should specify when he/she will be able again. The patient should mark the answer more suitable for him/her!

Question	Answer
Do you have balance problems when walking?	1: Yes 2: No
Do you have troubles when walking indoor?	1: Yes 2: No
Do you have troubles when walking outdoor?	1: Yes 2: No
Do you use helping means when walking indoor?	1: Yes 2: No
Do you use helping means when walking outdoor?	1: Yes 2: No

Instructions for health personnel which put the questions

Patients are asked to answer themselves, in order to estimate alone the own walking and balance abilities. Nobody can answer the questions instead of patient. The patient can be helped by explaining the questions which he or she cannot understand. The answers of patients should be summed. The score varies between 5 (great difficulties) and 12 (no difficulty). A score of 11 or worse indicates that patient has a risk of at least one fall up to 25 % in the following year, and the initiative to reduce the risk of falls and/or consequences of falls should be evaluated.

41.1 % from participants reached the best score and 1.2 % the worst. I observed the highest correlations between index of walking disorders by one hand and self-chosen walking speed, time evaluation in “up-and-go” test and the walking on the contour of 8 tests, by the other hand.

The results indicate that measuring the self-chosen speed in walking gives the best information.

During the follow-up year 155 accidents by fall in 76 patients were reported. 12.7 % of accidents resulted in fractures and 20 % of women fallen twice ore more times. Age wasn’t correlated with number of falls in resulting of fall-related fractures.

The risk of 2 ore more falls during the follow-up period was significant higher on women who had worse scores at index of walking troubles, compared with the others. 18.2 % of those with self-reported walking disorders in the worst score quarter had at least a fracture during the follow-up year, compared with only 8.5 % for the others.

Discussion

32-68 % of falls in elderly are presumed to be in persons who lose the balance or slip, and appear the most frequent in walk.

Therefore it is relevant to use the function of walk as a marker of fall risk. The index of walking disorders which consisted of self-reported balance, self-reported ability to walk indoor or outdoor, together with using of helping means in walk, showed that there is a strong dependency on tests which were closer to home activities, as the self chosen speed of walk.

Other tests revealed also that the walking speed a person feels comfortable is a global marker of physical function. One of questions in index is related to use of helping means in walk, which are a strong marker of weak balance.

The degree of self-related walking troubles was also a significant predicting factor for repeated falls.

There are only some clinical help means which can identify precisely the elderly with repeatedly fall trend. The examination shows that the simple anamnestic questions about the good or worse perception of balance and walking

function self-experienced by patient are a useful clinical help mean, which can replace the functional testing which requires time. Based on my observations I elaborated a question scheme to be used for identifying the elderly with walking and balance problems and the risk of falls.

I didn't study the degree of risk of behavior in studied persons. A less risky behavior protects against falls and fractures and the persons with balance problems seem more careful than those without balance problems. The fact that those who answer understand the questions only partly also could represent an error source in gathering data. The responders group hadn't meanwhile a question without answer, which indicates that the questions worked satisfactory in this studied group.

REFERENCES

Weiner DK, Duncan PW, Chandler J et al. Functional reach: A marker of physical frailty. J Am Geriatr Soc 1991; 39: 142–8.

Podsiadlo D, Richardson S. The timed «Up & Go»: a test of basic functional mobility for frail elderly persons. J Am Geriatr Soc 1991; 39: 142–8.

Johannon RW. Comfortable and maximum walking speed of adults aged 20–79 years: reference values and determinants. Age Ageing 1997; 26: 15–9.

Cress ME, Schechtman KB, Mulrow CD et al. Relationship between physical performance and self-perceived physical function. J Am Geriatr Soc 1995; 43: 93–101.

Topper AK, Maki BE, Holliday PJ. Are activity-based assessments of balance and gait in the elderly predictive of risk of falling and/or type of fall? J Am Geriatr Soc 1993; 41: 479–87.

Berg KO, Maki BE, Williams JI et al. Clinical and laboratory measures of postural balance in an elderly population. Arch Phys Med Rehabil 1992; 73: 1073–80.

Bergland A, Pettersen AM, Laake K. Functional status among elderly Norwegian fallers living at home. Physiother Res Int 2000; 5: 33–45.

King MB, Tinetti ME. Falls in community-dwelling older persons. J Am Geriatr Soc 1995; 43: 1146–54.

Bergland A, Jarnlo GB, Laake K. Validity of an Index of self-reported walking for balance and falls in elderly women. Adv Physiother 2002: 4: 65–73.

Tinetti ME, Doucette JT, Claus EB. The contribution of predisposing and situational risk factors to serious fall injuries. J Am Geriatr Soc 1995; 43: 1207–13.

Bergland A, Jarnlo GB, Laake K. Predictors of falls in the elderly by location. Aging Clin Exp Res 2003; 15: 43–50.

Bergland A, Wyller TB. Risk factors for serious fall-related injury in elderly women living at home. Inj Prev 2004; 10: 308–13.

Lord SR, Sherrington C, Menz HB. Falls in older people. Risk factors and strategies for prevention. Cambridge: Cambridge University Press, 2001.

Brækhus A, Laake K, Engedal K. The Mini-Mental State Examination: identifying the most efficient variables for detecting cognitive impairment in the elderly. J Am Geriatr Soc 1992; 40: 1139–45.

Frändin K, Sonn U, Svantesson U et al. Functional balance tests in 76-year-olds in relation to performance, activities of daily living and platform tests. Scand J Rehabil Med 1995; 27: 231–41.

Johansson G, Jarnlo GB. Balance training in 70-year-old women. Physiother Theory Pract 1991; 7: 121–5.

Vellas BJ, Wayne SJ, Romero LJ et al. Fear of falling and restriction of mobility in elderly fallers. Age Ageing 1997; 26: 189–93.

Berg K, Wood-Dauphinée S, Williams JI et al. Measure of balance in the elderly: preliminary development of an instrument. Can J Public Health 1989; 41: 304–11.

Thorbahn LD, Newton RA. Use of the Berg Balance Test to predict falls in elderly persons. Phys Ther 1996; 76: 576–83.

Duncan PW, Weiner DK, Chandler J et al. Functional reach: a new clinical measure of balance. J Gerontol 1990; 45: M1927.

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FUNCTIONAL RECOVERY TROUGH PHYSICAL THERAPY OF CHILDREN WITH NEURO MOTOR DEFICIT

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REZUMAT. Recuperarea funcţională prin kinetoterapie a copiilor cu deficit neuromotor. Prognosticul recuperării funcţionale neuropsihice la copiii cu encefalopatie infantilă sechelară este dificil de formulat, prin prisma datelor existente în literatură.

Rolul kinetoterapiei constă în aplicarea unor serii de exerciţii fizice (pasive, active, active cu rezistenţă) pentru reînvăţarea mişcărilor care nu se mai pot realiza, pentru corectarea celor care se execută greşit, pentru controlarea şi stăpânirea mişcărilor anormale, dar şi pentru instituirea unei discipline şi coordonări psiho-neuro-motoare noi, adaptate noilor condiţii determinate de boală; aceste mişcări se apropie foarte mult de mişcările naturale, pe care bolnavul trebuie să şi le recapete.

Introduction

The outcome of functional recovery of the children with Infantile Sequel Encephalopathy (ISE) it is difficult to formulate considering the data in the literature.

- The new born and the young child benefits of a great brain plasticity, which allows for compensatory mechanism that can partially take over the damaged part. These mechanisms appear early, around week 27-28 of gestation and continue until the child is 2 years old; they are more effective if the injury appeared earlier in the womb life resulting in a more positive outcome.
- It is essential to begin the recovery early, after there are checked all the deficiencies of the child on somatic, neurological, psychological, psychiatric, sensory, orthopedic and endocrine plans, each deficiency receiving the appropriate treatment.
- The child with ISE will be treated by a complex team composed by a neurologist, physical therapist, psycholog, ophthalmologist, endocrinologist, orthopedist, and educator.

The role of physical therapy in doing a series of physical exercises (passive, active, active with resistance) to re learn to movements that can be no longer performed, to correct the movements that are not performed well, to control and master the abnormal movements and to establish a discipline and a new psycho neuro motric coordination adapted to the new illness determined condition; these movements are very close to normal movements, movements that have to be recovered by the patient.

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The objectives of the study.

The main objectives have been:

- formation of the postural mechanism – to correct the walk;
- modification of the general movements, increasing the coordination;
- normalization of muscular tonus, decreasing the spasticity;
- rehabilitation of equilibrium in various stances;
- rehabilitation of proprioceptive functions;
- the prevention of contractures;
- learning the functional movements;
- increasing self esteem;
- increasing the level of fitness.

Materials and methods:

The study surveyed 6 children with infantile sequel encephalopathy, from Special School "Transilvania" (Baciu, Cluj County).

To evaluate the real recovery possibilities and the limits of the patient, we used the data from the observation sheet. We take into account:

- the age;
- the sex;
- the environment;
- the age of the mother at child birth;
- number of brothers of children with ISE
- the clinical form;
- the associated pathology with ISE;
- the duration from the debut to the moment when the treatment started;
- the earlier treatments;

With the help of some standardized and not standardized tests we made the quantification of neuromotor deficit for the patients to establish the objectives and therapeutically strategies.

The evaluation took place at the beginning, during the recovery and at the end.

The standardized test that measures the activity of daily living in is a global test that measures the capacity to use various segments involved in the movement. In the global evaluation there have been used many test to estimate the functional level.

We used Barthel test that tests 10 necessary functions for doing 10 ADLs for self care. The functions were: eating, transfer from wheel chair to bed and from bed to wheelchair, cleansing, using the toilet, bathing, walk on flat ground, climbing up and down the stairs, dressing and undressing, control of the anal and bladder sphincter.

To evaluate the movement, global functions, upper limb, lower limb and trunk functions it has been used the Rivermead Test.

Physical therapy treatment

The treatment of ISE considers the clinical diversity of the illness and the fact that at the level of nervous central system a cerebral lesion can not be fully recovered.

The treatment consists of three levels:

- primary prophylaxis- combating all the factors involved in the production of cerebral injuries;
- secondary prophylaxis- early treatment to avoid handicap;
- tertiary prophylaxis - treatment in sequel faze; considers the plasticity of immature brain and the fact that some areas of the nervous central system can overtake the function of affected cerebral areas.

The treatment takes several years according to deficiencies at the given time. The treatment will be initiated after a rigorous evaluation.

The objectives of the treatment:

Being independent in daily activities; independence of movement, the development of language for social integration.

Means of treatment:

- physical therapy;
- orthopedic- surgical treatment;
- medicine treatment;
- the treatment of associated disease
- educational counseling for social integration.

The objectives of physical therapy:

- fighting the contractures and their prevention;
- correcting the posture and of abnormal movements; promoting the optimum functionality for one or more anatomic segments.

The treatment will be done daily in specialized centers by qualified personnel as well at home with the help of the parents.

The physical therapy uses different techniques adapted to the child pathology as follows: Bobat, Vojta, Kenny, Phelps, Tardieu. The techniques will be reviewed according to child evolution.

The physical uses physical exercises according to 4 principles:

- obtaining a maximal adaptation to the modifications due to injuries and deformations;
- using more the active movement
- the graduation of treatment
- avoiding fatigue.

The active physical therapy consisted of:

- exercises for relaxation, for force, for speed; exercises to maintain an attitude.

The passive physical therapy consisted of posture treatment:

- movement trough hanging;
- maximum joint movement;
- stimulating movement.

Results and discussions

The evaluation of the patient with neuromotor deficit has been done with standardized tests: Barthel and Rivermead.

The Barthel test

This test for the evaluation of 10 ADLs prove the efficacy of the treatment. If at the first evaluation subjects with severe deficit were 66% at the second evaluation they represent 50%. Subjects with mild deficit were 34% at the first evaluation and after the treatment the percentage increased to 50%.

Table 1.

Barthel test

Value	**Interpretation**	**First evaluation**		**Second evaluation**	
		No.	%	No.	%
0 - 25	Very severe deficit	3	50%	3	50%
25 -50	Severe deficit	1	16%	-	-
50 -75	Moderate deficit	2	34%	3	50%
75 -90	Slight deficit	-	-	-	-
100	Without deficit	-	-	-	-

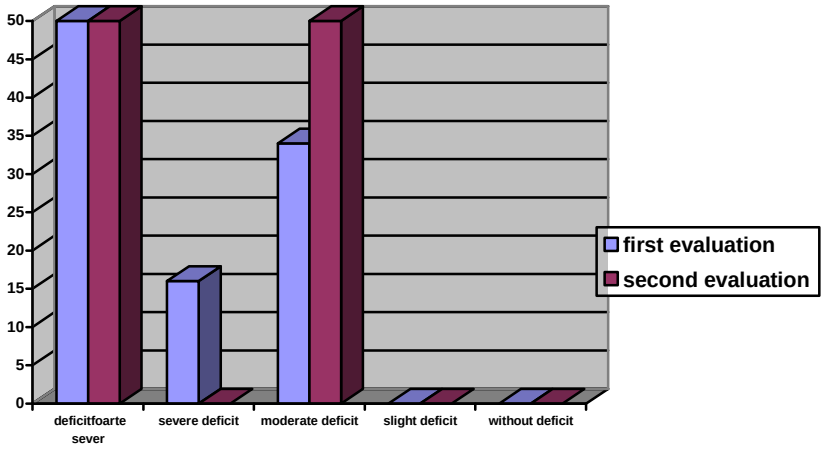

Chart 1. Barthel test

Rivermead test

This test is structured on three functions classes, and the comparison was don using this criteria

The performance of the function we expressed it in percents

Table 2.

Rivermead Test- first evaluation

%	Global functions		Upper limb functions		Lower limb and trunk functions	
	No.	%	No.	%	No.	%
0	1	16%	3	50%	4	66%
1-25	2	33%	1	16%	1	17%
25-50	3	50%	2	33%	1	17%
50-75	-	-	-	-	-	-
75-99	-	-	-	-	-	-
100	-	-	-	-	-	-

Table 3.

Rivermead test – second evaluation

%	Global functions		Upper limb functions		Lower limb and trunk functions	
	Nr.	%	Nr.	%	Nr.	%
0	-	-	2	33%	3	50%
1-25	3	50%	1	16%	2	33%
25-50	3	50%	3	50%	1	16%
50-75	-	-	-	-	-	-
75-99	-	-	-	-	-	-
100	-	-	-	-	-	-

Global function: at first evaluation most of the subjects presented a performance of global functions between 25 and 50% (50%of them). At the second evaluation 50% of the subjects presented a performance between 1-25% and 50% of the subjects between 50and 75%.

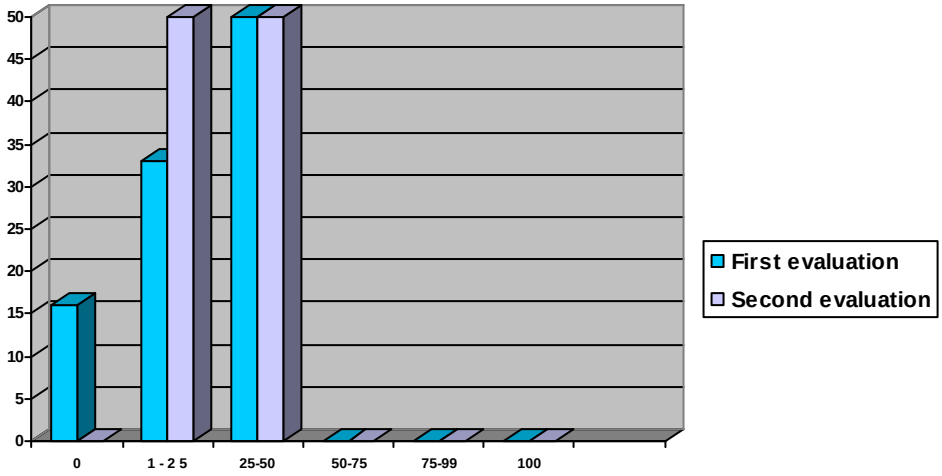

Chart 2. Rivermead test- global function

Upper limb function: at first evaluation 50% of the subjects had the performance 0%, 16% had a performance between 1and 25 % and 33% a performance of 25 – 50%.

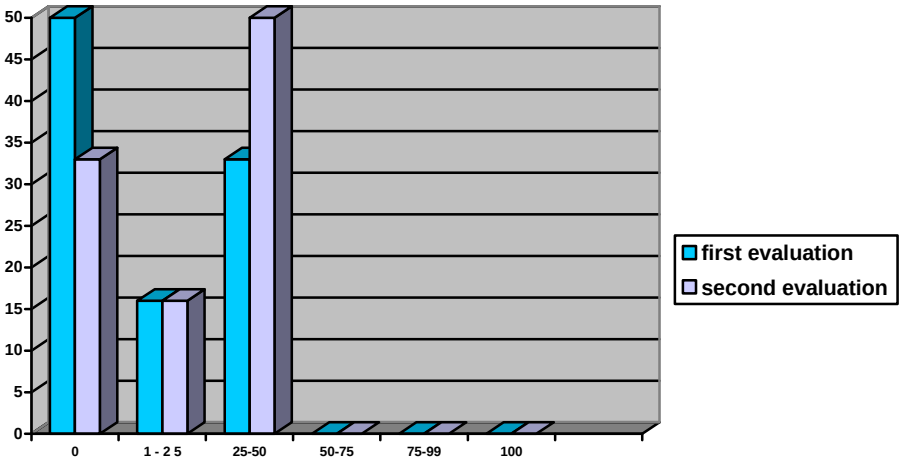

Chart 3. Upper limb function

The lower limb and trunk function: at first evaluation 66% had the performance of 0%, 17 % a performance between 1 and 25 % and 17% had a performance between 25 and 50%. At the second evaluation the percentage of the subjects with 0% performance decreased to 50%, those with a performance of 1- 15 % represent 33% and those with 25-50 % performance represent now 16%.

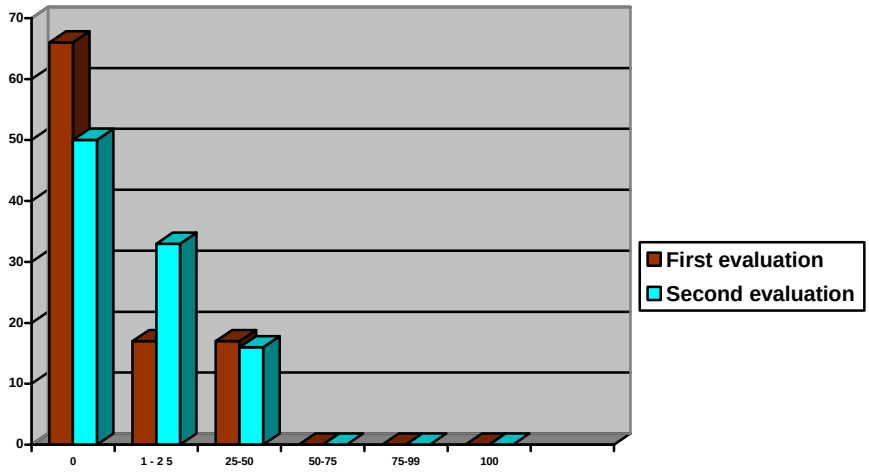

Chart 4. Lower limb and trunk functions

Conclusions

The motor deficit took the shape of spastic tetraplegy;

The strategies of recovery have been adapted to the secondary complications of neuromotor deficit;

The early beginning of the treatment is a fundamental condition for a positive functional prognosis;

The treatment of the patient with neuromotor deficit takes a long time; it is continuous and organized in successive stages;

The therapeutic program is a dynamic process that uses means and methods associated with each stage.

The methods are not used alone but interrelated. The methods Bobath, Kenny, Templefay, Vojta, Phelps, and Brunnstrom have to concur for the neuromuscular rehabilitation.

REFERENCES

Aicardi J., (1992): „Diseases of the nervous system in childhood”, London, Mac Keith Press, 8:210-369.

Benga I., (1994): „Introducere în neurologie pediatrică”, Cluj – Napoca, Editura Dacia, 9:103-120.

Bereki M., Benga I., (1999): „Hemiplegia congenitală – corelație între aspectele etiologice, clinice şi morfologice”, Revista de neurologie şi psihiatrie a copilului şi adolescentului, 3:57-63.

Cordun M., (1999): „Kinetologie medicală”, Bucureşti, Editura Axa.

Grady M., Gilfryle E., Moore J.C., (1993): „Children adapt”, 102:309-315.

Kiss I., (1999): „Fiziokinetoterapia şi reeducarea medicală”, Bucureşti, Editura Medicală.

Knott M., Voss E.D., (1956): „Proprioceptive neuromuscular facilitation”, New York, Hoeber – Harper book.

Mărgărit M., Mărgărit F., (1997): „Principii kinetoterapeutice în bolile neurologice”, Oradea, Editura Universității din Oradea.

Moca O., Zamora E., Kory-Mercea M., (1999): „Terapia ocupațională (metoda Afforlter) un model pentru tratarea perturbărilor perceptuale în hemiplegie” Acta Neurologica Transilvaniae, Oradea.

Robănescu N., (1983): „Tratamentul sechelelor motorii ale encefalopatiilor infantile (paralizia spastică cerebrală)", Bucureşti, Editura Medicală.

HUMAN RESOURCES IN SPORTS ORGANIZATIONS

MARIA DANIELA MACRA-OŞORHEAN[1]

REZUMAT. Resursele umane din organizaiile sportive. Solicitarea de a asigura un post în industria sportivă poate fi imensă, pentru orice stundent care termină managementul sportiv. Există două căi sau două tipuri de dezvoltare a resurselor umane în organizațiile sportive. Una este reprezentată de sportiv, cel care face sport, care are talent. A doua componentă importantă a ecuației, referitoare la talentul de pe teren îl reprezintă antrenorii. Ei reprezintă un bun important datorită abilităților unice, personalității, aptitudinilor pe care le aduc cu ei în organizație.

Introduction

The challenge of securing a position in the sports industry can be daunting to any graduating sport management student. Although competition for jobs in sport is intense, many opportunities are available to a skilled student who is willing to work hard, be persistent, and consider the full spectrum of segments that make up the sports industry. For students and nonstudents alike seeking to secure a job in sport, it is important to understand how the human resource function works in sport. There really are two different tracks or types of human resource development in sports organizations. One is the athlete, performer, or "talent" track. It may be useful to think of this track as being the "on-field" side of human resource management. It is the means by which sports organizations secure athletes or other highly skilled specialty performers for their organization. In professional sport, for example, this area is called *player development.* The player or talent development side of the sports business is distinct in that a variety of unique systems and practices have been developed to assure the organization is able to find, develop, and secure player "talent."

Components of this system are controlled on the league level for the express purpose of managing the on-field side of human resources. For example, the league sets forth the terms and conditions for acquiring players either through the draft or by trades. Leagues through basic labor agreements with players unions may also set minimum salaries, requirements for free agency, and other important policies and guidelines for the management of player talent. Leagues, owners, agents, and player unions have a vested interest in influencing, how player talent is managed. Leagues and owners are particularly interested in the distribution and management of player talent and its effect on league operations. For example, the draft system has been seen as a

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mechanism by which competitive balance among teams can be created—teams that have finished poorly in any year have better draft positions and theoretically are able to improve their teams by bringing in new young talent.

A variety of systems are related to player development. They include scouting, drafts, developmental leagues, coaches, trainers, and instructional leagues. Sports organizations that depend on the performance of player talent create divisions or departments that focus specifically on player development. The player development division, for example, is likely to include player talent specialists including scouts and instructors, whose sole focus is on the identification, evaluation, and acquisition of appropriate player talent. On the collegiate level, the player development function rests within the athletic department, and specifically with the individual sports program. Coaches and their staffs are responsible for identifying, recruiting, and developing player personnel.

This first track of sports human resource management includes coaches as well as players. Coaches, in fact, are the second critical component of the on-field talent equation. They are an important on-field asset because of the unique abilities, personality, and skills they bring to the sports organization. The professional team and Division I college sports coach may rise to celebrity status, and some sports organizations view the acquisition of a marquee coach as more important than the acquisition of a star player. Because of the coach's role in managing player talent and making critical game decisions, the coaching positions are vital to the performance of the sports organization.

Although this first track of human resource management in sports organizations has predominantly come to mean players and coaches as on-field talent, the category also includes top-level sports broadcasters in the sports media industry segment. These broadcasters are performers who work in a high-profile environment of "on-air" rather than "on-field." They are highly skilled and have reached the highest level of success within their profession. Like the player and coach, they are at the center of public attention and provide the talent that directly shapes the sports organization's product and, ultimately, its success.

Most sports organizations, however, are predominantly engaged in the second track of sports human resource development, the "off-field" side of human resource management. This area deals with those employees who are not athlete performers, coaches, or media personalities, but are actively engaged in administrative, managerial, or service delivery components of the organization. For example, professional tennis player Andre Agassi, professional figure skater Michelle Kwan, and NASCAR driver Jeff Gordon provide the "talent" and are sports athlete-performers, and the concessions manager, marketing director, arena manager, sports information director, athletic trainer, equipment manager, aerobics instructor, lifeguard, park attendant, and ticket taker are the other half of the human resource equation for sports organizations (and would be where most college students who major in sport management would fit in).

Managing Sports Organizations: Responsibility for Performance

In this paper we emphasize the "off-field" side of human resource management because the majority of human resource management in the sports industry occurs in this area. For students studying sport management, a general understanding of human resource practices for the off-field side is most important. Because students themselves are potential off-field employees and because someday they will be involved in managing others, an understanding of off-field human resource management track is relevant. Clearly, the majority of sport management students will pursue careers in sports that focus primarily on managing off-field rather than on-field or on-air personnel.

Additionally, relatively few segments of the sports industry are extensively involved in on-field human resource management. Most sports organizations including recreation departments, sports facilities, sporting goods manufacturers, and fitness clubs, for example, are predominantly engaged in the management of off-field staff. It may be argued that on-field personnel management is, in fact, a specialty of human resource management in sport. Those few students who pursue careers in sport that involve the on-field side of human resource management can build on their academic preparation in the specialty of on-field human resource management through an appropriate internship and professional experience in that area. Some of these issues are addressed in other chapters throughout the text and to a limited degree in this chapter, and thorough examination of this topical area can be found in a good sports law or sports labor law text or course.

As students begin their job search in sport, they are often most concerned with personal issues. How does my resume look? Who would hire me? What do I want to do? How much will I be paid? What type of benefits can I expect? Where do I want to live? Am I qualified for a job in this industry? What can I expect in an interview? All of these questions are important to the job seeker, but it is also very valuable to look at the job search from the sports organization's perspective as well. What is the sports organization looking for? Where will they find good candidates? How will they know they are hiring the right person for the job? By looking at the human resource function in sports organizations from management's perspective, sport management students can not only gain insight into the job-seeking process, but can also develop critical knowledge and skills they can then put to good use as employees of a sports organization.

The Importance of Human Resource Management

The sports industry is a growing enterprise that requires sports managers to find and develop the right people with the right skills to move their organization forward. Clearly, the success of the organization hinges on management's ability to secure necessary human resources. In this way, sports organizations are not all that different from other nonsport organizations. In a poll of American managers several years ago, they identified the most significant barrier to the success and

growth of their businesses as "attracting and holding on to the people with the right attitudes and the right skills" ("The Worried Rich," 1994). Overcoming this barrier is the challenge of human resource management. For much of the twentieth century, whether the job involved processing paperwork or producing products, most work was organized in an assembly line approach.

Each worker was responsible for performing fairly simple tasks and for then passing the work on to the next person to continue the process until the job was completed. Training for this kind of work was fairly simple and long lasting, with the technology involved in performing these tasks changing very little over the years. In this approach, the worker is really just an element in the production process, and with just basic education and a good work ethic could perform the typical job quite well.

During the past twenty-five years, however, all of that has changed dramatically. The work to be done has become progressively more complex and demanding. Teamwork is now the basic approach, requiring interpersonal and problem-solving skills that simply weren't necessary on the product or paperwork assembly line. Competency in computer and other information technologies is essential, and increasingly, individuals and teams share in the responsibility for managing performance and promoting and sustaining quality throughout the organization. Ensuring that the organization is attracting and holding on to people with the right attitudes and the right skills is the challenge of human resource management.

The function of human resource management may be defined as "a strategic, integrated collection of employee-centered activities and processes whose objective is to help the organization meet its short and long term goals" (Linnehan, 2001). Some sports organizations have their own human resources department or staff; other smaller organizations often rely on executive management to carry out this function.

Some sports enterprises, including many tour sports organizations, have the complex human resource challenge of not only working with paid staff, but also many volunteers. Volunteers can be a critical resource for many sports organizations, particularly those that require a great deal of labor to carry out their activities. For example, thousands of volunteers work for golf and auto racing tour sports organizations every year. They serve as hosts, course marshals, parking attendants, concessions workers, members of the set-up and clean-up crew, and so on. Sports organizations need volunteer coaches, field maintenance staff, game officials, and scorekeepers. The list of possible event jobs is endless, and event organizers and sports programmers readily admit their reliance on volunteer assistance. The effective performance of volunteers is frequently an important component of successful sports events or sports programs. For this reason, sports managers "must understand volunteer motivation and their satisfaction with the volunteering experience in order to respond effectively to management needs in the areas of recruitment, retention and daily operations" (Farrell, Johnston, & Twynam, 1998), so they are able to develop and maintain a strong volunteer corps.

Sports organizations must also rely on volunteers to serve as board members or trustees. As board members, volunteers play a critical role in setting the mission, creating a strategic plan, establishing policy, facilitating community relations, and securing resources for the sports organization (Inglis, 1997). Volunteer board members can bring expertise, experience, and other critical resources to the table.

REFERENCES

Farrell, J.M., Johnston, M.E. & Twynam, D.G. (1998). Volunteer motivation, satisfaction, and management at an elite sporting competition. *Journal of Sport Management 12*, pp. 288-300.

Inglis, S. (1997). Roles of the board in amateur sport organizations. *Journal of Sport Management 11*, pp. 10-17.

Linnehan, F. (2001). Human resource management in sport. In B. Parkhouse (Ed.), *The management of sport: Its foundation and applications*. Boston: McGraw-Hill.

The worried rich. (1994, December 5). *Business Week*, p. 8.

PHYSICAL EDUCATION AND SPORT- A SOCIAL REPRESENTATION

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REZUMAT. Educaţia fizică şi sportul – reprezentare socială. Fenomenul educaţiei fizice şi sportului, ca reprezentare socială, este perceput diferit în funcţie de o serie de variabile care definesc grupuri şi individualităţi.

Diversităţii formelor de practicare a exerciţiului fizic îi corespund câmpuri sociale în care practicantul – „actorul social" – ataşează acţiunilor sale o semnificaţie cognitivă ce poate avea rol diferenţiator în construirea reprezentării. Înteracţionând cu contextul, câştigând în competenţă, cel ce practică sportul ajunge în poziţia să ia decizii, să stabilească relaţii, aplică acţiunilor sale o semnificaţie cognitivă ce poate avea rol diferenţiator în construirea reprezentări.Ancheta efectuată a urmărit să pună în evidenţă modul în care este perceput fenomenul de educaţie fizică şi sport de către studenţii diferitelor facultăţi din universitate; în ce măsură studenţii percep acest fenomen în context social şi cum le influenţează statutul.

The phenomenon of physical education and sport, as a social representation, is perceived differently according to a series of variables, variables which define groups and individualities.

Social fields are related to the diversity of forms of physical exercises, in which the practitioner- "social actor"- attach to its actions a cognitive signification that can have a differential role in building the representation. Interacting with the environment, building up competence, means that those who practice sports are in the position to take decisions, to establish relationships, to give a cognitive significance to their actions, which can have a differential role in building the representation.

We have done inquiries, we applied systematically the method of observation for a period of more than 5 years focusing on the way the sport phenomenon, as social representation, is perceived. The subjects of the study are students of Physical Education and Sport Faculty and from the faculties of Letters, Political Sciences, History, Philosophy, Mathematics, and Sociology.

We recorded 172 valid questionnaires of students from other faculties then Physical Education and Sport Faculty, 100 from the Faculty of Physical Education and Sport and 60 from Physical Therapy Department from the same Faculty resulting in a number of 332 questionnaires.

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The attitude towards physical education and sport has to be analyzed from two perspectives: a) from the perspective of physical education and sport students; b) from the perspective of students from other faculties.

For the students from Physical Education and Sport Faculty, the practice of physical education is a requirement for their profession. In addition, we have to point out that most of those subjects have a continuous and permanent activity because they practice sports at agonistic level and they also have to have a good physical condition that will allow them to successfully fulfill Faculty requirements. For them practicing physical exercises is not only a necessity it became a need, a dependency.

The students from Physical Therapy Department (mostly females) admit the importance of practice physical exercises, but they do not do it arguing that the lack of time or laziness (according to their own statements) stops them.

Students from other faculties perceive the phenomenon of physical education and sport as social representation and they think that in contemporary society this activity is a necessity in the life regime of every man. For many of them this statement is only at a declarative level, because they practice sporadically, do not have continuity in training and because they think it is fashionable. They consider the systematically practice of physical exercise as a problem of health- 80, 81 %; education – 26, 74%; body aesthetics – 87, 79%; civilization – 12, 79%.

It is obvious that body aesthetic plays a big part:

- very much – 22, 54%;
- much – 52, 02%;
- less – 23.25%;
- at all – 0, 58%;
- Without answer – 2 questionnaires.

Subjects choose those forms of movement that can fulfill this aim. At the first place is jogging – 27, 32% followed by aerobics – 25, 58%, swimming – 13, 95% and fitness – 11, 62%. Other sports are basket, soccer, handball, tennis, and bodybuilding.

Physical education is compulsory in the first two years of study for the students from other faculties then Physical Education Faculty. This is the only physical activity for 80, 23% of the subjects. The reasons why they do not practice any other forms of physical exercises are according to their own statements:

- lack of enjoyment – 34, 30%;
- to much distance to a gym or sport field – 27, 32%;
- economic issues – 24, 41%
- schedule issues – 25, 58%;
- lack of time – 59, 88%;
- others:
  - laziness – 8 subjects;
  - medical issues;
  - lack of ambition – three subjects.

The interests for a good physical condition can be judged according to the number of training in a week:

-once a week- 80, 23% (physical education lesson);
- twice a week – 49, 41%;
-three times a week – 23, 25;
- rarely – 2, 32%;
-without answer 14 questionnaires.

Regarding the continuity of this over the year results:

- a systematic activity for 23, 25 % from the subjects;
- half a year activity for 19, 76 % from the subjects;
- from time to time over the year 21, 51%

The situation of free time activities is as follows:

-listening music- rank I;
-meeting friends- rankII;
-clubbing- rankIII;
-going to movies- rankIV;
-learning – rankV;
-watching TV – rankVI;
-taking a walk – rankVII;
-practicing sports- rank VIII;
-administrative works-rank IX;
-reading- rankX;
-others: computer gaming; netsurfing.

It comes naturally that the practice of sports requires knowledge in this field and participating to sport events either directly or indirectly trough TV. Go to sports events:

-frequent- 0, 46%;
-sometimes – 51, 74%;
-never – 43, 60%.

As a ***conclusion***, we can say that the young perceive correctly the physical education and sport as social representation. It is commonly accepted that any individual with a certain amount of culture and education who wants to be appreciated as a member of society, respecting social norms, has to accept the practice of sports as a condition of modern life, and related to this he/she has to have knowledge from about this social phenomenon and to participate directly or not to sport events.

Participation in sport events, as a spectator is a mean of improving general knowledge.

The attitude toward sports has to be regarded as a consequence of economic status and the level of knowledge.

REFERENCE

W. Doise, A. Palmonari – Caracteristici ale reprezentărilor sociale. În: A. Neculau, 1996 (coord.) – Psihologie socială. Aspecte contemporane.Iași, Ed. Polirom

Marolicaru, M.; Boros-Balint, Iuliana - Regim de viață stil de viață .(rezultatele unei anchete). Al II- lea Congres Internațional "Mişcarea – punte de legătură între gândire şi acțiune", 4-5 decembrie 2004, Cluj-Napoca, pp.443-448

Marolicaru, M.; Ciocoi – Pop, D.R.; **Boros-Balint, I. –** Study regarding the Incidence of Physical Deficiencies at the FEFS Cluj-Napoca. În revista: Studia Universitis Babeş-Bolyai Educatio Artis Gymnasticae, 2005 nr.2, pp.19-22

Marolicaru, M. **–** Estetica corporală şi stările psihice**.** În revista: Palestrica Mileniului III, Anul VI nr.4 (22) decembrie 2005, pp.7-9

RESISTANCE'S DEVELOPMENT IN 15-16 YEARS TROUGH SPECIFIC TESTS

MONEA DAN, POPOVICI CORNEL, MONEA CORNELIA

REZUMAT. Determinarea rezistenței la juniorii de 15-16 ani prin teste specifice. Lucrarea de față îşi aduce un aport important la dezvoltarea rezistenței în jocul de fotbal la vârsta de 15-16 ani, vârstă la care se face tranziția spre performantă şi marea performanță, fiind un ghid reprezentativ pentru tinerii antrenori şi profesori în domeniul fotbalului. Cercetarea experimentală de tip constatativ (făcând parte din teza de doctorat) s-a desfăşurat în perioada 25-octombrie 2004 – 30 iunie 2005; am dorit să observăm dacă rezistența la efort creşte odată cu dezvoltarea somatică a subiecților. Au fost aplicate următoarele probe și teste: naveta de rezistență (Testul Luc Leger), testul Cooper, naveta în trepte crescătoare, ridicări de trunchi din culcat dorsal, sărituri succesive cu desprindere şi aterizare pe ambele picioare, proba specifică.

Romanian dictionary says about resistance that is "the power to endure tiredness". (Romanian Dictionary, 1996).

In Romanian literature we can also find the term endurance, term that has his origins from "andurance" in France, and from "endurance" in English.

Known also as endurance (endurance – the power to endure), the dictionary Collegiate - Merriam Webster's (2000) defines the term as „ the capacity to sustain an effort or a stressful activity for a long period of time".

Specialist agree that resistance is the human capacity to fight and defeat tiredness, meaning that physiological phase characterized by decreasing the work capacity for a temporary period due to a long and intense effort.

When effort continues in the same intensity due to willing resources, is considered to be a continuous tiredness phase and with all the willing efforts, it decreases and corresponds to decompensate tiredness phase.

The research (takes part from my doctor's degree thesis) took place between 25 of October 2004 and 30 of June 2005 as follows:

- Initial testing (T1) "block testing" – 25- 29 of October 2004;
- Intermediary testing (T2) "block testing" – 14-20 of February 2005;
- Final testing (T3) "fractioned testing" – 2nd of May, 9th Of May, 16^{en} of May, 20- 23 of May.

After our experimental research we wanted to observe if the effort resistance rises along with somatic development in subjects. The subjects tested were in number of 23, from the football team "F.C. University" Cluj, group of age 15-16 years, trainer Sima Daniel.

The following tests were applied:

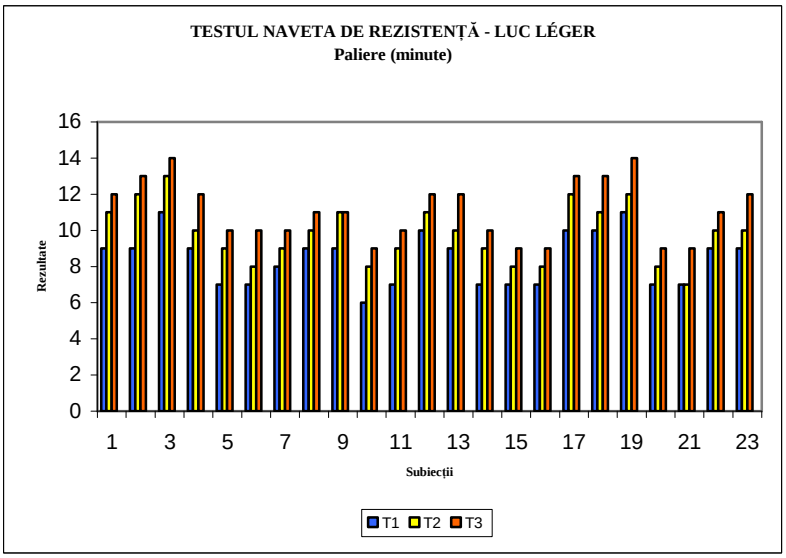
- **Commutation resistance (Test Luc Leger)** which investigates the cardio-respiratory resistance by running in an accelerate tempo, on 20 m, changing the sense and rhythm. The signal is sonorous and his frequency rises progressive to each minute, the test is conducted by a tape recording.
- **Cooper test** – evaluates the effort capacity, aerobe resistance, during 12 minutes of running.
- **Commutation in raising steps** - is a fast movement, going and coming back, so we have: 5m (going and coming back), 10m (going and coming back), 15m (going and coming back), 20m (going and coming back); the route distances with speed, stops, changing the direction with a twist of 180^0, totals 100m and evaluates the speed resistance. The measurements were made by recording the running time in seconds.
- **Abdominal resistance** – from lying on the back, rising the trunk, knees bended and well fixed to the floor (helped by one partner), and hands by the nape, when rising the subject must touch the knees with his elbows. As many abdominal exercises during 60 seconds. The measurements were made by counting the number of rehearses.
- **Successive jumps** detachment and landing on both foots, test that evaluates the local resistance in legs. The subject makes 10 jumps as long as possible; the measurements were made by counting the meters (centimeters).
- The **special test** evaluates the special resistance by running and conducting the football ball during 6 minutes. Each subject has a football ball. Starts from the field corner, traverses one length and breadth and from the opposite angle transfers the ball on diagonal to the trainer or one partner. After passing the ball the subject traverses the other length and breadth takes the ball and starts again till the end of the 6 minutes. The measurements were made by counting the meters made in 6 minutes.

Evaluating the resistance

The aerobe resistance investigated trough Commutation resistance (Test Luc Leger) evaluates the number of running minutes (corridors) and VO_2 max. The dynamic concerning the number of corridors can be described trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =33,74 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=33,74>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing are significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	80,89	1	80,89	33,74	0,000000644	4,06
Intra grupuri	105,48	44	2,40			
Total	186,37	45				



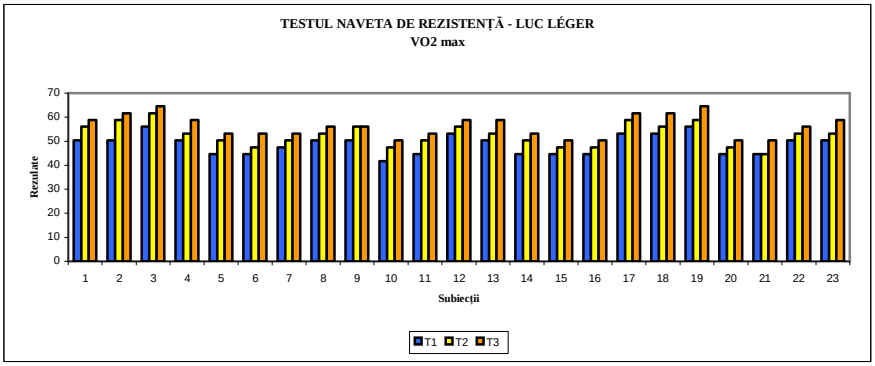
Graphic: Individual values (T1, T2, and T3) for Commutation resistance (Test Luc Leger)

We can see that is a difference between the initial and final testing, a significant progression, explained by our intervention, in improving the subject's aerobe resistance.

The **VO_2 maximum** dynamics in Commutation resistance (Test Luc Leger) can be described trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =33,70 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=33,70>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	652,14	1	652,14	33,70	0,000000653	4,06
Intra grupuri	851,58	44	19,35			
Total	1503,71	45				



Graphic: Individual values (T1, T2, and T3) for Commutation resistance (VO_2 max)

In establishing VO_2 max we can see that is a difference between the initial and final testing, a significant progression, explained by our intervention, in improving the subject's aerobe resistance (aerobe power).

Calificative	Excelent (Ex.)		Foarte bine (Fb)		Bine (B)		Mediu (M)		Satisfăcător (Sat.)	
	nr. sub.	%	nr. sub.	%	nr. sub.	%	nr. sub.	%	nr. sub.	%
T 1	-	-	-	-	5	21.73	9	39,13	9	39,13
T 2	-	-	1	4,34	12		9	39,13	1	4,34
T3	2	8,69	3	13,04	13	56,52	5	21,73	-	-

Table: Epithets – number of subjects and percentages in Commutation resistance (Test Luc Leger) – in all 3 testing

Evaluating VO_2 maximum trough epithets in Commutation resistance we appreciate the followings:

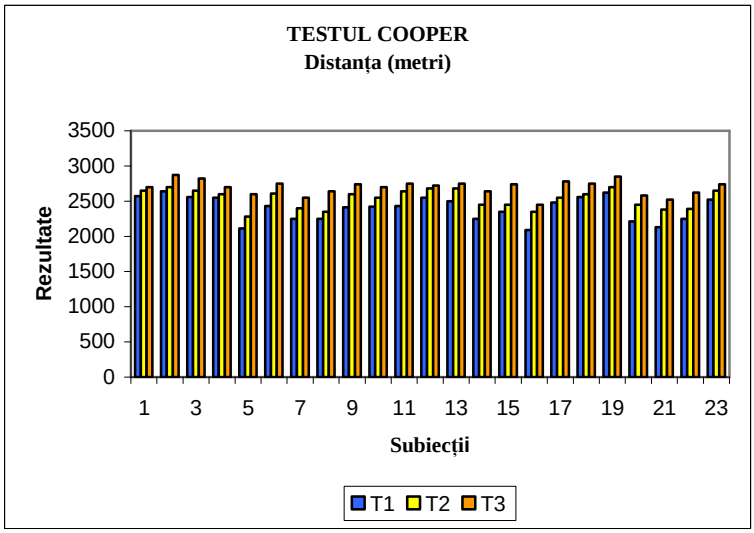
- In the initial testing 5 subjects, meaning 21,73%, were included in "good" category and 9 subjects, meaning 39,13% were included in "medium" and " satisfactory" category;
- In the intermediary testing 1 subject, meaning 4,34% has obtained " very good" epithet, 12 subjects included in "good " category and the same number of 9 subjects in "medium" category and 1 subject in " satisfactory" category;
- In the final testing 2 subjects have obtained "excellent" epithet", 3 subjects "very good" epithet, majority – meaning 13 (56,52%) in "good "category and no subject in "satisfactory" category.

Analyzing VO_2 max trough the consumed oxygen we can say that in the end, the majority of subjects were included in "good" category and an important number of subjects in "very good" and "excellent" categories.

The aerobe resistance investigated trough Cooper Test can be described trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =50,27 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=50,27>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	1014106,522	1	1014106,522	50,27	0,0000000084	4,06
Intra grupuri	887634,7826	44	20173,51779			
Total	1901741,304	45				



Graphic: Individual values (T1, T2, and T3) for Cooper Test

The indicative which evaluates the aerobe resistance trough 12 minutes of running proves that the distances traversed by the subjects grow up in each testing. Comparing the initial results with the final results we can see a significant difference (in statistics), explained by our intervention, in improving the subject's aerobe resistance.

Calificative	**Excelent**		**Peste medie**		**Medie**		**Sub medie**		**Slab**	
	nr. sub.	**%**	**nr. sub.**	**%**	**nr. sub.**	**%**	**nr. sub.**	**%**	**nr. sub.**	**%**
T1	-	-	9	39,13	6	26,08	5	21,73	3	13,04
T2	-	-	7	60,86	8	34,78	1	4,34	-	-
T3	3	13,04	19	82,60	1	4,34	-	-	-	-

Table: Subjects evaluation trough epithets – reported to the number of subjects in percentages - in Cooper Test – in all 3 testing

Evaluating resistance trough epithets in Cooper Test we appreciate the followings:

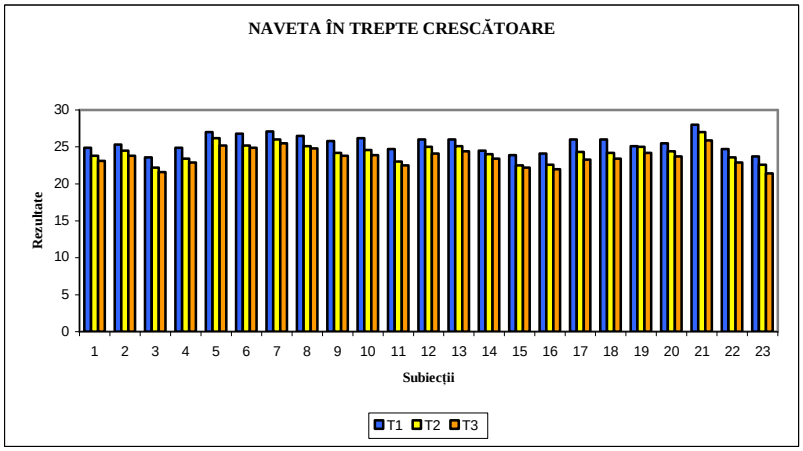
- In the initial testing 9 subjects, meaning 39,13% were included in "over medium" category and 6 subjects were included in "medium" and 8 subjects meaning 34,77% were included in "under medium" category and "satisfying".
- In the intermediary testing 1 subject has obtained "under medium" and "satisfactory" category, 22 subjects meaning 65,21% were included in "medium" and "over medium" category;
- In the final testing 3 subjects have obtained "excellent" epithet", 19 subjects meaning 82,60% were included in "over medium" category.

We appreciate the fact that in the end of our research, 22 subjects were included in "over medium" and "medium" category, fact explained by our intervention, in increasing the resistance in football players.

Resistance evaluated trough Commutation in raising steps can be described trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =29,11 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=29,11>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	40.94696	1	40.94696	29.112	0.000002586	4.062
Intra grupuri	61.88783	44	1.406542			
Total	102.8348	45				



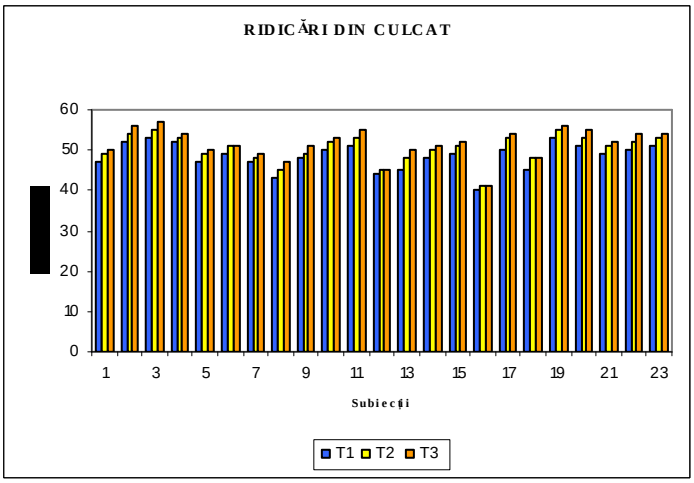
Graphic: Individual values (T1, T2, and T3) for Commutation in raising steps

Evaluating resistance trough Commutation in raising steps we appreciate that there is a progress in each testing. Comparing the initial results with the final results we can see a significant difference (in statistics), explained by our intervention, in improving the subject's aerobe resistance.

Abdominal resistance – from lying on the back rising the trunk, knees bended and well fixed to the floor (helped by one partner), and hands by the nape, when rising the subject must touch the knees with his elbows. The measurements were made by counting the number of rehearses and can be described trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =7,84 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=7,84>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation sources	SS	df	MS	F	P-value	F critical
Între grupuri	105.0909	1	105.0909	7.842352	0.007681	4.062
Intra grupuri	562.8182	44	13.40043			
Total	667.9091	45				



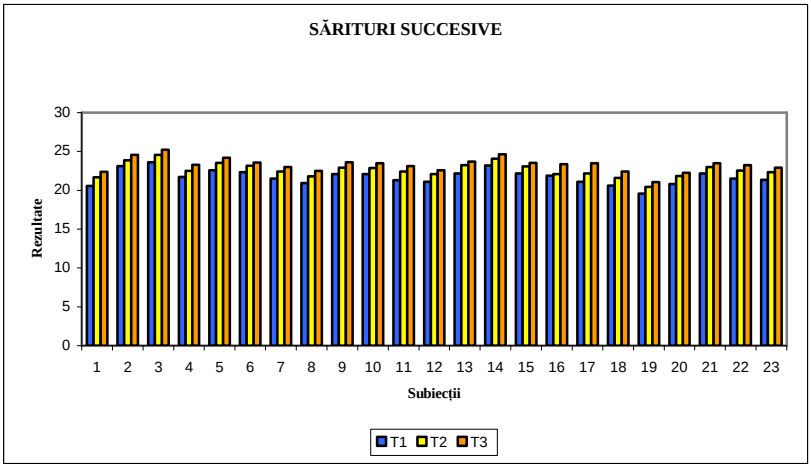
Graphic: Individual values (T1, T2, and T3) for abdominal exercises – in all 3 testing

The indicative which evaluates the resistance in abdominal muscles proves that the number of the repeats rises from one testing to the other. Comparing the initial results with the final results we can see a significant difference, progressive (in statistics), explained by our intervention, in improving the subject's aerobe local resistance in abdominal muscles.

Successive jumps detachment and landing on both foots, test that evaluates the **local resistance** in legs. The subject makes 10 jumps as long as possible; can be analyzed trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =33,72 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=33,72>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	28.51931	1	28.519	33.728	0.00000065	4.062
Intra grupuri	37.20527	44	0.846			
Total	65.72458	45				



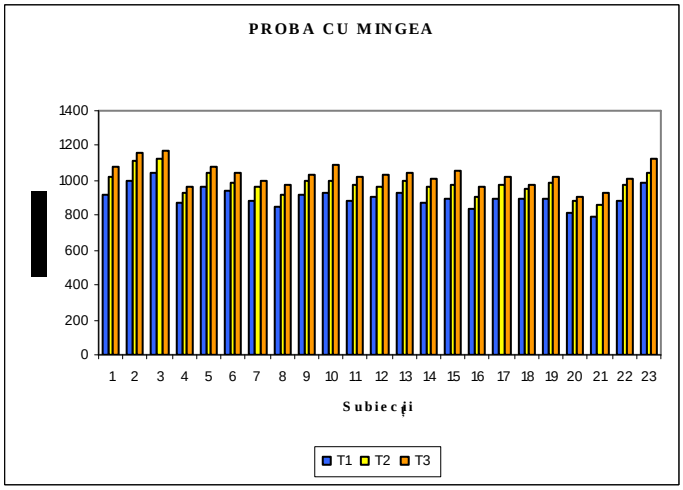
Graphic: Individual values (T1, T2, and T3) for successive jumps – in all 3 testing

The indicative which evaluates the resistance in leg muscles shows improvements from one testing to the other because the value of the obtained results rose. Comparing the initial results with the final results we can see a significant difference, progressive (in statistics), explained by our intervention, in improving the subject's aerobe local resistance in legs.

The special test evaluates the **special resistance** by running and conducting the football ball during 6 minutes and can be analyzed trough the following statistics:

- ANOVA – dispersion analysis which indicates: F report =47,91 with 1 and 44 liberty degrees has the value 4,06 and is significant when threshold 0,05; $F_{critical}$ =4,06; $F_{(1;44)}$=47,91>4,06. In these conditions the null hypothesis is rejected, is admitted the working hypothesis, the differences between the two testing being significant.

Variation source	SS	df	MS	F	P-value	F critical
Între grupuri	187904.3	1	187904.3	47.91	0.000000015	4.06
Intra grupuri	172582.6	44	3922.332			
Total	360487	45				



Graphic: Individual values (T1, T2, and T3) for technique test – in all 3 testing

The indicative which evaluates the special resistance shows improvements from one testing to the other. The catering with complex needs for resistance, speed and mastering the technique is shown in the distances that were traversed (the distances raised from one testing to the other). Comparing the initial results with the final results we can see a significant difference, progressive (in statistics); we had favorable effects in improving the subject's special resistance.

Conclusions

1. Using specific running exercises the aerobe resistance improves, especially the aerobe power, the football players (15/16 years) being capable to consume an optimal volume of oxygen in a sustained and prolong activity.
2. Our intervention based on athletic exercises had produced favorable effects on general resistance, the subject being capable of significant improved efforts in a standard 12 minutes test.
3. The program used to develop the resistance had also a positive effect in manifesting prolong speed capacity, in our subjects.
4. The athletic exercises that were used brought positive influences in developing local resistance, on the solicited areas, especially abdominal resistance and in legs.
5. Acting for developing the resistance trough specific athletics means, the development of special resistance had positive effects in prolong effort conditions.

REFERENCES

Ardelean, T., (1990), *Particularitățile dezvoltării calităților motrice în atletism.* Bucureşti: IEFS

Cojocaru, V., (2000), *Strategia pregătirii juniorilor pentru fotbalul de înaltă performanță.* Bucureşti: Ed. Axis Mundi

Dragnea, A., Mate-Teodorescu, S., (2002), *Teoria Sportului.* Bucureşti: Editura Fest.

Evaluare în sport. (1994), Bucureşti: Sportul de performanță 356-358, MTS, CCPS

Epuran,M., Marolicaru M., (2000), *Metodologia cercetării în educație fizică şi sport*, Ed. Risoprint, Cluj-Napoca.

Gagea, A., (1999), *Metodologia cercetării ştiințifice în educație fizică şi sport*. Bucureşti: Editura Fundației „România de mâine"

Merriam-Webster's Collegiate Dictionary (1998), Springfield, Massachusetts Merriam-Webste

Popovici, C., (2004), *Fotbal pregătirea fizică a fotbalistului.* Cluj-Napoca: Ed. Napoca Star.

Rius, J., S., (2000), *Football – Exercices et jeux*. Paris: Edition Amphora

Tudor, V., (2005), *Măsurare şi evaluare în cultură fizică şi sport.* Buzău: Editura Alpha MDN

STUDIA UNIVERSITATIS BABEŞ-BOLYAI, EDUCATIO ARTIS GYMNASTICAE, LI, 1, 2006

DETERMINING THE LEVEL OF PHYSICAL FITNESS OF FIRST AND SECOND YEAR GEOGRAPHY STUDENTS OF THE BABES-BOLYAI UNIVERSITY (II)

POP NICOLAE-HORATIU[1]

REZUMAT. Determinarea condiţiei fizice la studenţii anilor i şi ii ai facultăţii de geografie din cadrul U.B.B.(II).Această lucrare îşi propune să prezinte rezultatele obţinute în urma efectuării testelor Eurofit la studenţii anului I şi II ai Facultăţii de Geografie. Obiectivul a fost acela de a determina nivelul condiţiei fizice al acestora. Rezultatele arată faptul că aceştia au in medie o condiţie fizică între bună şi foarte bună.

This research aims at determining the level of physical fitness of the first and second year geography students.

Stamina is, according to A. Dragnea a superior state of adaptedness visible in the achievment of the best possible results in major competitions.(Dragnea 1996: 282)

Geography students need good physical training because of what their field of activity requires: outdoor research, long-distance walking on mountain paths with rucksaks.

This paper is a follow-up of an article with the same topic but with the tests done on students studying a different subject.

A large number of different tests have been suggested for the evaluation of the physical fitness level. Nowadays the fitness level of European youngsters is assessed by using the Eurofitt Tests.

In this case the interpretation of the results has been made by comparing the values of the practical tests conducted with the reference values of the Eurofitt Tests.

The tests have been run on a number of 40 female first year and 40 female second year students. Given the small number of male geography students the tests have been run on a total number of 40 first and second year male students.

The test vas made up of three parts:

1. Standing long jump:

Item tested: explosive strength
Materials needed: measuring tape

[1] *Faculty of Physical Education and Sport Cluj-Napoca*

Test description: long jump starting from standing. The subject stands behind the starting line, which is marked on the ground, with their knees bent, moving the arms back and forth and then jumps as far as possible. The landing has to be with the knees kept together.

Evaluation: the subject is allowed to jump twice. The best result in centimetres is recorded.

Table 1

Evaluation of the explosive strength

Age	Male			Female		
	Weak	**Good**	**Very good**	**Weak**	**Good**	**Very good**
17-19	190	220	245	145	170	200
>19	185	210	230	140	160	180

2. Lifting the body from sitting:

Item tested: abdominal strength

Test description: the body is repeatedly lifted vertically for 30 seconds as the subject is lying on their back, with their hands at the back of the head, bent knees and the feet steadily on the ground. The liftings are carried out as fast as possible while the knees have to be touched with the elbows.

Evaluation: the total number of complete and correct liftings performed in 30 seconds is recorded.

Table 2

Evaluation of the abdominal strength

Age	Male			Female		
	Weak	**Good**	**Very good**	**Weak**	**Good**	**Very good**
17 – 19	22	27	31	16	21	26
>19	19	23	28	14	20	25

3. Lifting the body from lying face-down

Item tested: back strength

Test description: repeatedly lifting the body for 30 seconds from lying face down with the hands at the back of the head. The liftings have to be as high as possible.

Evaluation: the total number of complete and correct liftings during 30 seconds.

Table 3

Evaluation of the strength of the back

Age	Male			Female		
	Weak	**Good**	**Very good**	**Weak**	**Good**	**Very good**
17 – 19	26	28	31	21	23	26
>19	23	25	28	19	22	25

The data have been statistically processed using the formula $x = \frac{T}{N}$ and then compared to the reference data of the Eurofit tests.

Table 4

Values obtained after the statistical processing of the students' results

Year of study	Male			Female		
	Long jump	**Abdominal strength**	**Strength of th back**	**Long jump**	**Abdomina l strength**	**Strength of the back**
I	220	16.4	30.2	163	17	27.5
II	220	16.4	30.2	164.7	18.4	26.5

The analysis of the obtained values shows that the male students are at a good to very good level at the test of the explosive strength. Concerning the abdominal strength the are below the lowest limit and concerning the stength of the back they are above the highest limit.

The first and second year female students have almost the same fitness level, the second year ones presenting a slightly better physical form than the first year ones. An exception is the strength of the back were the values of both study-years are above the highest limit and where the first year students have slightly higher values than the second year students. As regarding the explosive strength test the values slightly exceed the reference values while the values of the abdominal strength test are slightly below the reference values.

As the activity of teaching physical education is based on planning a set of goals and trying to reach them by using scientific methods, we think that the research described above shows that the applied methods in training the students are good but can be improved.

REFERENCES

A. Dragnea - 1996 Antrenamentul sportiv, edit. Didactică şi Pedagogică, Bucureşti

G. Roman - 2004, Antrenamentul şi competiția în sportul de performanță, edit. Napoca Star, Cluj Napoca

M. Marolicaru; M. Epuran - 1998, Metodologia cercetării activităților corporale, edit. Risoprint, Cluj Napoca

M. Câmpianu – 2003 Kinetoterapia deficiențelor fizice, edit. Napoca Star, Cluj Napoca

R. Mano – 1996 Bazele teoretice ale antrenamentului sportiv

Appendix 1

First year female students

Nr.	Subiecți	Săritura în lungime	Forță abdomen	Forță spate
1.	A.A.	135	21	28
2.	B.M.	170	15	29
3.	B.I.	165	14	20
4.	B.C.	170	16	27
5.	B.M.	150	19	28
6.	B.O.	180	11	22
7.	B.M.	155	24	30
8.	B.L.	150	20	30
9.	B.I.	140	22	26
10.	B.A.	145	12	29
11.	D.C.	165	11	27
12.	D.B.	180	15	30
13.	D.B.	170	12	28
14.	D.T.	175	15	28
15.	D.A.	180	20	24
16.	D.I	155	17	27
17.	D.F.	170	13	30
18.	D.D.	170	10	30
19.	D.M.	170	18	35
20.	D.S.	170	23	26
21.	K.G	200	23	38
22.	L.C.	170	13	23
23.	L.A.	195	20	34
24.	L.A.	180	27	27
25.	M.M.	155	16	27
26.	C.L.	160	15	26
27.	C.M.	160	27	30
28.	H.C.	175	14	27
29.	I.D.	175	14	31
30.	O.N.	195	16	26
31.	P.N.	155	17	29
32.	P.L.	160	19	28
33.	R.M.	160	19	28
34.	R.O.	150	20	30
35.	R.A.	145	18	30
36.	S.M.	170	19	25
37.	S.I.	185	24	31
38.	S.A.	165	20	27
39.	S.A.	170	16	32
40.	S.V.	190	15	28

Appendix 2

Second year female students

Nr.	Subiecți	Săritura în lungime	Forță abdomen	Forță spate
1.	A.M.	150	15	28
2.	B.O.	170	23	25
3.	B.A	165	12	23
4.	B.A.	150	14	27
5.	C.A.	155	15	29
6.	C.D	160	17	28
7.	C.E.	160	11	27
8.	C.S.	155	16	26
9.	C.A.	140	23	23
10.	C.C.	170	33	21
11.	C.A.	160	22	31
12.	C.A.	165	22	24
13.	D.A.	170	14	36
14.	D.E.	150	24	27
15.	G.I.	190	25	11
16.	I.R.	170	20	27
17.	I.A.	165	25	27
18.	L.I.	200	23	27
19.	M.I.	170	24	24
20.	M.A.	140	13	27
21.	M.B.	160	10	13
22.	N.L.	160	22	23
23.	O.G.	200	12	30
24.	P.O.	165	16	26
25.	P.C.	160	19	28
26.	B.A.	185	20	32
27.	H.R.	160	20	27
28.	M.I.	170	19	30
29.	O.L	190	19	33
30.	T.T.	175	24	30
31.	T.P.	180	19	22
32.	P.P.	200	19	26
33.	P.I.	145	10	29
34.	R.M.	165	19	26
35.	R.A.	145	13	24
36.	S.L.	135	14	29
37.	S.I.	165	15	30
38.	S.M.	170	15	31
39.	S.G.	155	10	25
40.	S.E.	150	15	30

Appendix 3

Firs and second year male students

Nr.	Subiecți	Săritura în lungime	Forță abdomen	Forță spate
1.	A.A.	205	15	33
2.	B.K.	145	9	24
3.	B.B.	245	24	37
4.	C.C.	225	15	26
5.	C.D.	225	22	33
6.	C.O.	225	16	27
7.	C.G.	235	15	30
8.	C.L.	230	10	25
9.	F.A.	210	18	29
10.	F.D.	225	15	28
11.	G.O.	200	32	41
12.	G.A.	210	23	33
13.	H.C.	215	15	23
14.	I.B.	220	20	30
15.	K.A.	250	5	33
16.	K.R.	250	17	35
17.	M.D.	205	12	33
18.	P.C.	240	20	32
19.	P.R.	235	16	35
20.	P.O.	185	30	40
21.	S.M.	210	19	33
22.	S.S.	265	12	30
23.	S.M.	210	16	29
24.	.S.S.	195	19	34
25.	T.V.	210	15	31
26.	V.A.	245	15	22
27.	B.S.	255	16	31
28.	C.R.	205	12	27
29.	C.G.	220	12	28
30.	F.S.	225	14	33
31.	G.T.	255	18	22
32.	I.R.	205	17	28
33.	M.R.	215	16	38
34.	M.M.	215	22	28
35.	O.M.	195	10	34
36.	P.A.	195	14	38
37.	P.D.	250	18	26
38.	P.P.	215	14	25
39.	P.D.	220	13	26
40.	S.I.	235	15	31

STUDIA UNIVERSITATIS BABEŞ-BOLYAI, EDUCATIO ARTIS GYMNASTICAE, LI, 1, 2006

RECOVERY OF THE SORE SHOULDER OF BADMINTON PLAYERS

OCHIANA NICOLAE[1], BALINT TATIANA[1], OCHIANA GABRIELA[1] BALINT GHEORGHE[1]

REZUMAT. Recuperarea umărului dureros la badmintonişti. Cea mai mobilă articulație din organism – umărul – este deseori expusă la frig şi suprasolicitare în unele activități zilnice, profesii şi ramuri sportive, cum sunt: aruncătorii cu sulița, luptătorii, piloții de curse, tenismenii, badmintoniştii etc.

În fața unui umăr dureros trebuie să ştim că el poate fi sediul celor mai variate procese: reumatismale, infecțioase, degenerative, metabolice, vasculare, nervoase, distrofice, tumorale.

Cel mai des întâlnite forme de umăr dureros la jucătorii de badminton pot fi incluse sub denumirea generală de Periartrita Scapulo-Humerală. Aceasta nu este o boală, ci un sindrom clinic dureros însoțit de limitarea mişcărilor, datorită afectării structurilor periarticulare (ligamente, capsulă, tendoane, bursă, muşchi).

Din rezultatele şi concluziile desprinse în urma cercetării a reieşit faptul că în cadrul unei echipe de badmintonişti, alături de antrenor şi medicul sportiv, un kinetoterapeut este imperios necesar. El trebuie să cunoască toată patologia specifică sportului în cauză, să ajute la realizarea unei pregătiri fizice în concordanță cu sportul practicat, să depisteze cât mai precoce toate afecțiunile care au tendința să se instaleze şi să realizeze programe profilactice adecvate care se adaugă la eliminarea factorilor ce influențează negativ randamentul sportivilor.

The most mobile joint of the human body – the shoulder – is often exposed to cold or overuse during some daily activities, or when practicing some sports such as: javelin, wrestling, car races, tennis, badminton etc.

When dealing with a sore shoulder, we must be aware that many various processes may affect this part of the body: rheumatism, infections, degeneration, metabolic, vascular, neural or dystrophic processes, tumors.

The sort of sore shoulder which occurs more often in the case of badminton players can be included into the general category of Scapular-Humeral Arthritis. This is not a disease, but a painful clinical syndrome which is accompanied by a limitation of movement due to affection caused to the joint structures (ligaments, tendons, muscles).

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The real reason that leads to this syndrome is a lesion of the glen humeral joint: degenerative lesions of the tendons, especially of the supra-spinous and the biceps, characterized by necroses - which lead to partial ruptures, sometimes total ruptures – or by calcifications.

The assumptions of the research:

1. We suppose that after analyzing the biomechanics and correcting the problematic elements specific to badminton we can prevent certain affections of the shoulder.
2. We suppose that by using a proper physical therapy on the sore shoulder we can improve the function of the joint.
3. We suppose that by using a proper physical therapy we can improve the sports performance

Objectives of the research

- To establish cooperation relations between coach, sportsman and physical therapist.
- To select the group of subjects on which to try the physical therapy plan for recovering the sore shoulder of badminton players.
- To select the evaluation methods necessary in order to establish how good is the function of the shoulder joint.
- To organize the research activity by establishing the specific physical therapy methods, means and techniques necessary for recovering the sore shoulder.
- To record, analyze and interpret the results of the final tests.

Place and conditions

The experiment took place on the Teaching and Recovery Base of the Physical Therapy department of the University of Bacau from September 1st 2005 until June 1st 2006.

The group of subjects involved in the research

The 8 subjects are badminton players in the National Team which is training in Bacau. We have selected only those players who had a sore shoulder, after giving the whole team certain tests, specific for this pathology, having beforehand talked to the coach.

The subjects who had a sore shoulder have been divided into two categories: the experimental group and the witness group. The players who were included in the experimental group benefited from physical therapy recovery programs, while the ones included in the whiteness group didn’t benefit from recovery therapy because they took too many personal trips out of the city, over extended periods of time.

PRESENTATION AND INTERPRETATION OF THE DATA

The working method

Specific evaluation tests that have been used

The testing of the shoulder mobility (for flexion and extension, abduction, adduction and rotation movements) using the goniometer.

The testing of the strength: using the bathroom scales we have measured the strength of the flexor, extensor, abductor and adductor muscles. For the internal and external rotator muscles we have used a hand scales equipped with a hook.

Specific tests for detecting the sore shoulder

The NEER sign, MAITLAND's "Cvadrant" test, the HAUWKINS test, the forced horizontal adduction, the isometric test for the supra-spinous muscle on functional plan, the JOBE maneuver, the isometric test for the supra spinous muscle on frontal plan, the isometric YOKUM test of the supra-spinous muscle, the PATTE test, the isometric test for the sub-spinous and for the little round muscle, the isometric test for the sub-scapular, the GERBER test.

Physical therapy means, methods and procedures used

-The classical local massage,

-The deep transversal massage (the CYRIAX technique),

1. The deep transversal massage on the sub-spinous tendon,
2. The deep transversal massage on the supra-spinous tendon,
3. The deep transversal massage on the sub-scapular tendon,
4. The deep transversal massage on the long tendon of the biceps

-Medical gymnastics

Free active exercises

Resistance active exercises

Active exercises using objects

a) Resistance against the gravity and the weights

b) Resistance against the elastic band and the gravity

-The electrotherapy

All subjects have taken a somatoscopic exam and a functional exam before the specific tests for detecting the sore shoulder (photo 1,2,3).


Foto 1


Foto 2


Foto 3


Foto 4


Foto 5


Foto 6

The steps of the recovery program and the selection of the methods used for curing the subjects of the experiment have been decided on according to the general objectives which resulted from a thorough anamnesis and an accurate functional diagnostic (photo 4,5,6).

Since the main objective – to eliminate the pain – has been achieved during the first step, and the recovery of the joint flexibility has been achieved during the second step, during the third step we were able to introduce a program for strengthening and increasing the muscles and for increasing the muscular endurance. During the third step, we also had as an objective to regain the specific skills and coordination.

The results of the final tests show the increase of the muscular amplitude compared to the initial level, the increase of the muscular strength and the disappearance of the pain felt at the beginning of the research.

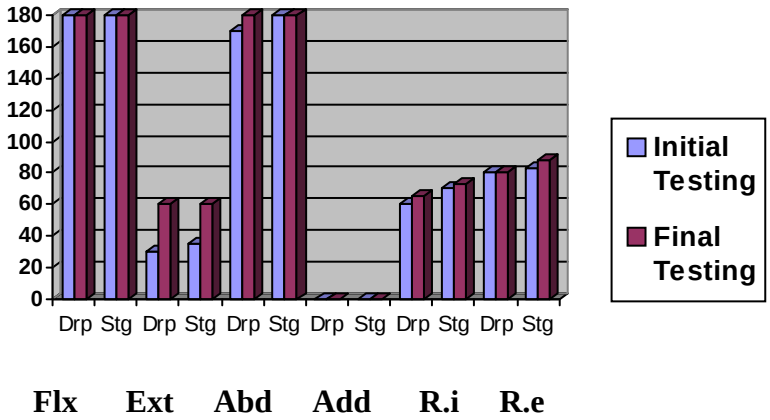
The efficiency of the players has improved considerably, the proof being their results in the competition that took place after the treatment period - especially the first place gained in the national team competition - compared to their results in the competitions that took place before the treatment program.

Example

Table no.1

Joint mobility test for the player A.D

Type of testing	Date of testing	**The movement tested (in degrees of mobility)**											
		FLX		**EXT**		**ABD**		**ADD**		**R.I**		**R.E**	
		right	left	right	left	right	left	right	left	right	left	right	left
Initial Test	9.03.06	180º	180º	30º	35º	170º	180º	0	0	60º	70º	80º	83º
Final Test	9.05.06	180º	180º	60º	60º	180º	180º	0	0	65º	73º	80º	88º

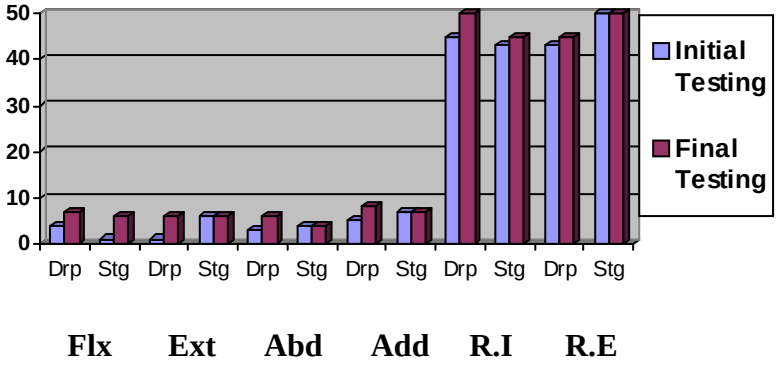


Graphic no.1. Dynamic of the joint span for the player A.D

Table no.2

Testing of the muscular strength A.D

Type of testing	Date of testing	**The group of muscles tested (in kilograms)**											
		FLX		**EXT**		**ABD**		**ADD**		**R.I**		**R.E**	
		right	left	right	left	right	left	right	left	right	left	right	left
Initial Test	9.03.06	4	1	1	6	3	4	5	7	45	43	43	50
Final Test	9.05.06	7	6	6	6	6	4	8	7	50	45	45	50



Graphic no.2. Dynamic of the muscular strength for the player A.D

CONCLUSIONS

Analyzing the data obtained after the recovery programs we can make the following statements:

- The success in the recovery of the badminton players who suffereed of a sore shoulder was due primarily to an accurate functional diagnosis, made by using some specific tests.
- The deep transversal massage was one of the most useful tools during the classical treatment for reducing the pain and for the functional recovery of injured joint structures.
- The physical therapy recovery has reached its objectives in different degrees, according to the involvement and the conscious response of the player to the treatment sessions, treatment which had as a goal not only to reduce the pain and to recover the injured joint structures, but also to increase the mobility and the tonus of all the muscles involved in the movements of the shoulder joint
- As a result of the individualized physical therapy treatments we have noticed an improvement of the technical aspect which led to better sports results.
- A very important conclusion is that after the physical therapy treatments the players included in the experimental group have had a better medical evolution than the ones included in the whiteness group.
- The assumptions we have made at the beginning of the present experiment proved to be right, and we have reached our objectives.

Considering the results and the conclusions drawn from the present research, we can conclude that it is absolutely necessary to include a physical therapist in a badminton team, together with a coach and a physician. He must know the entire pathology specific to that particular sport, he must help in organizing a physical training program specific to the sport practiced, he must track down as soon as possible any affection that might come up and make up appropriate prophylactic programs in order to eliminate all the factors that have a negative influence on the sportsmen’s efficiency.

REFERENCES

BACIU, C, (1977), *Anatomia funcțională şi biomecanica aparatului locomotor,* Editura Sport- Turism, Bucureşti

BARBU, R şi BAROGA, M, (1982), *Medicina sportivă,* Editura Sport-Turism, Bucureşti

CORDUN, M, (1999), *Kinetologie Medicală,* Editura AXA

DEMETER, Z, (1983), *Badminton*, Editura Sport-Turism, Bucureşti

DRĂGAN, I, (1971), *Cultură fizică şi sănătate*, Editura Medicală, Bucureşti

ILIESCU, A, (1975), *Biomecanica exercițiilor fizice şi sportului*, Editura Sport Turism, Bucureşti

ILIESCU, A şi GAVRILESCU, D, (1976), *Anatomia funcțională şi Biomecanica*, Editura Sport-Turism, Bucureşti

LĂZĂRESCU, A, (1974), *Jucați Badminton*, Editura Sport- Turism, Bucureşti

MÂRZA, D, (2004), *Curs: Tehnici complementare de masaj*, Bacău

MÂRZA, D, (2003), *Curs: Masaj clasic*, Bacău

MARCU, V, (1989), *Badminton: Mijloc al educației fizice*, Editura Sport- Turism, Bucureşti

MORARU, G şi PÂNCOTA, V, (1999), Recupererea kinetică în reumatologie, Editura Imprimeriei de vest, Oradea

RADOVICI, I şi SAN-MARINA, E, (1973), *Recuperarea sportivilor traumatizați*, Editura Stadion, Bucureşti

STĂNESCU, N, (1972), *Traumatologie sportivă curentă*, Editura Stadion, Bucureşti

SBENGHE, T, (1987*), Kinetologie profilactică*, terapeutică şi de recuperare, Editura Medicală, Bucureşti

MODERN ELECTRONIC SYSTEMS FOR MEASURING THE SPEED OF MOVEMENT

OCHIANĂ NICOLAE[1], OCHIANĂ GABRIELA[1]

REZUMAT. Sisteme electronice moderne de măsurare a vitezei de deplasare. Tehnologia modernă şi mai ales cea viitoare cu dinamica ei de multe ori deconcertantă, îşi va pune în mod cert amprenta pe instrumentarea specifică a sportului de înaltă performanță.

În mod concret investigația ştiințifică a avut ca scop determinarea posibilităților de folosire a dispozitivului electronic" Brower timming system" pentru măsurarea vitezei de deplasare în vederea folosirii ca instrument de lucru pentru cercetătorii, profesorii sau antrenorii care se ocupă de identificare şi cuantificarea acestei calități motrice.

Ca urmare a acestor aspecte am considerat ca folosirea unui complex tehnic care sa permită obținerea unor informații concrete, cuantificabile, care să economisească timp, dar mai ales să fie mobilă, cu posibilități de investigare, stocare şi analiză a datelor pentru unui număr cât mai mare de subiecți în ceea ce priveşte viteza de deplasare reprezintă un subiect interesant de abordat

Key words*: testing, speed of movement, „Brower timming system" electronic device.*

OBJECTIVES

The actual objective of this scientific investigation was to determine the possibility of using the "Brower timming system" electronic device to measure the speed, in order to use it as a tool for the researchers, teachers or coaches who need to identify and quantify this feature of movement.

CONTENT

Modern technology, and especially future technology, with its amazing development is surely going to leave a mark on the specific tools used in performance sport.

Bearing in mind these aspects, we considered that it would be interesting to use a complex technical equipment which would allow us to get concrete, quantifiable results, which would save time, and above all which would be mobile, offering the possibility to investigate, to store and to analyze data concerning speed for a larger number of subjects.

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Photo 1

Photo 2

Research methods and techniques

The wireless "Brower timming system" (see photos 1 and 2) for measuring the speed is a light (about 4 Kg), mobile device, easy to use indoors as well as outdoors. The system has the advantage that it can be easily placed, having a range of 260m. It can store up to 126 timing data due to the 8 infrared sensors (photo 3) that the device has. The sensors are placed at different heights using tripods (photo 4), which provide a higher efficiency even vertically. A number can be assigned to each sportsman to facilitate the later analysis of the information, when the system is shut down on each sportsman individually.

Photo 4

Photo 6

Photo 5

Photo 3

The timing data can be downloaded on a PC, using a USB. The device can be started both by using the switch placed on the sportsman's right or left sole (photo 5), or by using an acoustic device placed behind the sportsman.

The accuracy of the system is 1/1000 seconds, and it is shown on a display (photo 6), giving us information about the time interval from the starting point to the first contact line, to the second contact line, and so on, as well as the total amount of time registered on all intervals.


Foto 7


Foto 8


Foto 9


Foto 10

Each individual element of the system has a 9V battery which provides the necessary energy.

During the present research, we have used the “Brower timming system” electronic device, linked to a Toshiba Tecra A2 notebook (photo 7). All the information we have gathered has been introduced in a database for later use.

The investigation protocol required that the method should be first explained to the whole group, and only afterwards the test itself should be given to groups of 5 subjects (Photo 8). In the end, the results obtained by the subjects will be displayed and stored, and the device will automatically issue a list of the subjects, according to their performance during the test.

The usual tests for measuring speed in table tennis are the 30m and the 50m tests, which measure the time needed for the player to run through the respective distance at the highest speed. We consider that, in order to evaluate the speed during the initial selection stage, 10 m are enough (photo 9, 10). The timing of this test has been measured in milliseconds.

The study has been conducted on 90 subjects, all pupils in the second form at Miron Costin School in Bacau, and it lasted from December 1st until February 15th 2006. A database has been made containing the results of the measurements as well as some identification data – sex, height, weight, span -, which has proved to be very useful in making a hierarchy to show the subjects' ability for practicing high performance sport, hierarchy based mainly on their results during the speed tests.

No.	Index	sex	class	Date of Birth	H	W	Span	Speed
	surname/ first name			year	cm	kg	cm	sec
1	S.M.	m	2A	97	128	25,3	119	2,06
2	N.T.	f	2A	97	134	24,2	128	2,12
3	B.R.	m	2A	96	137	29,7	131	2,16
89	R.M.	f	2C	97	126	24,2	120	3,55
90	P.I.	m	2D	97	130	26,4	124	3,72

Conclusions

The technical equipment, made up of *the electronic device "Brower timming system*" and a notebook, has proved to be very useful. Small, compact, easy to move, having a large capability of storing and analyzing the data, this complex technical equipment can be successfully used to measure the speed of movement for a large range of individual or team sports.

REFERENCES

BELOUS, V., STĂNCIULESCU, T.D., TEODORESCU, H., (1996) - *Performantica-interferenţe, sinergii, confluenţe.* Edit. Performantica, Iaşi

BADEA, E., (1993) - *Caracterizarea dinamică a copilului şi adolescentului de la 3-18 ani cu aplicaţie la fişa şcolară*. Edit. Didactică şi Pedagogică, R.A., Bucureşti

BARON, T., BIJI, E.& colab., (1996) - *Statistică teoretică şi economică.* Edit. Didactică şi Pedagogică – R.A., Bucureşti

BOCU, T. TACHE, S., (1997) - *Selecţia în sport*. Editura Dacia, Cluj-Napoca

COLIBABA-EVULEŢ, D., BOTA, I., (1998) - *Jocuri sportive. Teorie şi metodică.*, Edit. ALDIN, Bucureşti

DRAGNEA, A., (1984) - *Măsurarea şi evaluarea în educaţie fizică şi sport.* Edit.. Sport-Turism, Bucureşti

EPURAN, M., (1971) - *Aptitudinile şi selecţia în sport*. Edit. CNEFS, Bucureşti

EPURAN, M., (2005) - *Despre Ştiinţa activităţilor corporale - teoria şi filosofia lor. Culegere de texte*. Edit Renaissance, Bucureşti

OCHIANĂ, N., (2005) - *Implicarea tehnologiei didactice moderne în procesele de orientare, selecţie şi iniţiere a copiilor în tenisul de masă-teză de doctorat.* Universitatea din Piteşti

THOMAS, R., ECLACHE J.P., KELLER, (1995) - *Aptitudini motrice- structură şi evaluare.* traducere, Uz intern, Biblioteca CCPS, Bucureşti

Internet sites:

http://www.olympic.org

http://www.worldwideschool.org/library/books/tech/sports.html

STUDIA UNIVERSITATIS BABEŞ-BOLYAI, EDUCATIO ARTIS GYMNASTICAE, LI, 1, 2006

ANXIETY CONTROL IN SPORT COMPETITIONS

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REZUMAT. Controlul anxietății în competițiile sportive. În sport emoțiile, foarte puternice influențează negativ capacitatea de performanță a individului. Dintotdeauna s-a pus problema nu de a înlătura emoțiile, ci de a le aduce la acel nivel al intensității care este cel mai potrivit pentru performanța optimă.

Tratamentul care se poate aplica este unul etiologic sau unul simptomatic.

Competitive anxiety received a considerable attention during the last decade.

The strong interest is due, in part, to researchers who are continuously trying to get a better knowledge over the anxiety and its relation with athletic performance. Indeed, a researcher (Jones, 1955), leader in competitive anxiety domain, suggested that the effects of anxiety can appear in such complex and unpredictable situations that they have the potential to induce a powerful stress on the athletes and these things usually leads to a weak performance. Although many athletes successfully handle the pressure of a competition, it is not uncommon that the athletes to “freeze” or to lose mental control and have weak performance in crucial moments (Jones, 1955). So, researchers are trying to understand nature and the causes of competitive anxiety and its effects on the performance.

A significant development in anxiety research was the perception of competitive anxiety as multidimensional. The separation of anxiety in cognitive (mental component) and somatic (physical component) suggests that these two components are independent because they influence behavior differently and have different antecedents and consequences upon athletic performance (Martens, Vealey and Burton, 1990). This leads to the theory of multidimensional anxiety, which suggest that somatic anxiety quickly disappears once the performance begins, while cognitive anxiety will vary during performance on the base of success or failure probability appraisal. Regarding performance effect, the theory of multidimensional anxiety stipulates that the state of cognitive anxiety correlates negative and linear with performance, while somatic anxiety has an inversed U type relation with performance.

Cognitive behaviorist interventions in anxiety are guided by two very important rules. The first rule refers to the fact that before psychotherapeutic intervention a medical intervention is required to identify the eventual causes of anxiety. If these causes are identified, psychotherapeutic intervention is mixed with

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medical treatment. Almost every primal anxiety disorder has a secondary anxiety disorder; in other words, the subject becomes more anxious (secondary anxiety) when he realizes that he is anxious (primal anxiety).

In sports very strong emotions influence in a negative way the performance ability. So the problem was not to eliminate emotions, but to bring them to that level of intensity witch is suited for best performance.

The treatment that can be used is an etiological or symptomatic one.

Rainer Martens (1982) describes the main concept of anxiety:

State anxiety — is the actual or emotionally regular level characterized by the feeling of apprehensions and tension, associated with organism activation. State anxiety has a negative effect upon behavior.

Trait anxiety – is the general tendency of perceiving certain stimulus as threatening or harmless and to respond them with different levels of anxiety.

Taylor made the first researches over anxiety in the 1950s by using an appreciation scale of "manifest" anxiety. In 1966 Charles Spielberger established the difference between state and trait anxiety (State Anxiety and Trait Anxiety).

Rainer Martens (1982) studied athletic anxiety and elaborated "Sport Competition Anxiety test – SCAT". J.B. Cratty (1973) gives a classification of ***athletes' anxiety***:

1) Fear of success or failure (fear of success "nikefobia" was described by Antonelli (1964) as a particular case, close to psychopathological phenomena's from sports).
2) Fear of social consequences of one's own quality of performance
3) Fear of trauma and other such fears connected to the physiological condition of organism.
4) Fear of consequences of own or others agressivity.

Anxiety means specific changes on four levels: subjective, cognitive, behaviorist and biologic/physiologic.

Changes on subjective level

In anxiety, the subjects see their experiences as a feeling of helplessness, fear and immediate catastrophe.

The only available method to identify the changes on this level is introspection and then the subject relating: "I feel like…". Subjective experiences (feelings) are the expression of the interaction between changes from cognitive, behaviorist and physiological level.

Changes on cognitive level

The subject, due to processing and threatening informational contents, wrongly interprets the situations from internal or external reality – internal/external cognitive discrepancy –, which generates distress or other emotional disorders. Processing a threatening informational contents lead to preferential processing of

anxiogenus stimulus, ignoring neutral or positive affective stimulus. This preferential processing of negative stimulus amplifies anxiety, creating so a vicious circle in which anxiety favors the selection of negative stimulus and this selection maintains anxiety.

Changes on behaviorist level

On behaviorist level, anxiety may be described through a behavior of avoiding anxiogen situations.

Changes on physiological level

On physiological level, anxiety may be characterized by all the changes induced by the unbalance of the vegetative nervous system.

Among the causes of physiological changes, here are a few (Dan David, 2000):

a) Helplessness: discrepancy between what do I want to do, what am I asked to do and what do I know to do;

b) Cognitive discrepancy between what we expect to happen (our own expectations) and what happens (in the internal or external environment);

c) Unhealthy behavior – use of different substances (drugs) or nutrients (coffee), physical effort in excess;

d) Biological causes – hyper secretions of adrenalin or noradrenalin.

Situations that induce anxiety to athletes

To some authors there are four main categories of ordered situations that induce anxiety during the game:

A. Game situations
B. Situations related to the game, score and time crisis
C. Situations related to the couch or in relation with the coach
D. Other situations

In these four categories, the main situational subcategories derive from the dates are in relation with:

- Offensive situations
- Defensive situations
- Situations in which accidents occur
- Interruptions before the game
- Situations during the game
- Conflicts generated by the coach’s tactical decisions
- Team
- Officials
- Audience.

The analyze of these situations support the existence of a set of competitive situations which regularly produce anxiety and which also can be applied on a variety of similar sport games.

Many studies on athletic anxiety were focused on the characteristic of the athletes and very little attention to the characteristic of the situations in which the behavior of the athletes is displayed. (Dunn and Hilsen, 1993;hains, 1989; Spielbenger, 1989)

This lack of attention on situational characteristics in sorts remains an obstacle in understanding how situations affect or interact with the athlete during competitions and inhibits the systematic integration of these situations. Situations have a very important role in many theoretical models that talk about the emotional answers. For example, humans perceive anxiety in situations that threaten their physical or psychological integrity. (Lazarus and Averill, 1972; Marthens, Vealey, and Burton, 1990; Smith and Lazarus, 1990, Spielbenger, 1966)

High levels of anxiety may, at their turn, to have adverse effects on performance. In consequence, sport psychologist and coaches who contribute to the development of performance must be aware of the objective competitive situations (Hackfort & Schwenkmezger, 1993; Martens and co., 1990), which are probably seen by the athletes as a threat.

Recent studies had a great influence to understanding the competitive anxiety's multidimensional nature and its effects upon performance.

In team sports the intensifications of competitive anxiety was associated whit specific situations in which the potential of social evolution is high (hits from 11 meters, free throws in basketball). In these situations the possibility to diffuse the responsibility of performance through the other teammates is minimized (Martens and co., 1990), and the degree of negative appreciation focused on the athlete is maximized (Fisher &Zwart, 1982, p.145).

Krane recommends that sport councilors and coaches to recognize the types of situations that induce anxiety which appears during competition, while Wrisberg and Pain claim that the most important thing is to be defined the characteristics of situations that induce anxiety in different sports.

REFERENCES

David, D., Holdevici I., Szamoskozi, S., Băban, A.(2000). *Psihoterapie şi hipnoterapie cognitiv-comportamentală*. Cluj-Napoca: Editura Risoprint

Epuran, M., Holdevici, I. (1980). *Compendiu de psihologie pentru antrenori*. Bucureşti: Editura Sport – Turism.

Epuran, M., Holdevici, I., Tonița, F. (2001). *Psihologia sportului de performanță* – Teorie şi practică. Bucureşti: Editura Fest.

Hanin, Y.L. (1989). Interpersonal and intragroup anxiety in sports. In D. Hackfort & C.D. Spielberger (Eds.*), Anxiety in sports: An international perspective* (pp. 19-28). New York: Hemisphere.

Holdevici, I. (1998). *Psihoterapia tulburărilor anxioase*. Bucureşti: Editura Ceres

Holdevici, I. (1999). *Gândirea pozitivă – Ghid practic de psihoterapie rațional – emotivă şi cognitiv – comportamentală*. Bucureşti: Editura ştiință şi tehnică.

Martens, R., Vealey, R.S., & Burton, D. (1990). *Competitive anxiety in sport*. Champaign, IL: Human Kinetics.

INVESTIGATION FOLLOWING THE DETAIL ASPECTS OF INITIAL SELECTION IN MEN'S ARTISTIC GYMNASTICS AT 6-7 AGED

PAŞCAN IOAN[1], PAŞCAN ADRIAN[1]

REZUMAT. Studiu privind aspectele specifice ale selecției inițiale în gimnastica artistică masculină la vârsta de 6-7 ani.
Lucrarea de față şi-a propus prezentarea strategiei abordate în cadrul selecției inițiale la gimnastica artistică masculină în vederea depistării copiilor cu reale disponibilități necesare acestui sport de mare tehnicitate. Ca metodologie de abordare la început am efectuat o anchetă prin chestionar adresate profesorilor cu specializarea gimnastică cât şi gimnaştilor consacrați. După acest demers, am trecut la aplicarea bateriei de probe de control: probe generale şi probe proprii.

Cuvinte cheie: selecția în sport, selecția inițială, ancheta, chestionar, probe specifice, probe proprii.

General aspects

The concept of sport selection was defined by many specialists, both from the sports domain, and from the interdisciplinary branches.

In this paper we present two definitions of the sport selection, which we consider to be significant of this concept.

„The selection is an organized recurring process of an early detection of child's/ junior's inborn aptitudes, by means of a complex criteria system (medical, biological, psychosocial and motor) of practicing and further specialization in a discipline or sports event" (Nicu, A., 1993).

„The selection is a complex system of identification and selection of highly talented people for sports, based on some principles, criteria and methods of motor, biomedical and psychological characteristics used to reveal- with an increased coefficient of probability and prognostic characteristic-, the effective aptitudes of achieving upper performances". (Bocu, T., 1997).

However, an appropriate selection offers many advantages, e.g.:

- facilitates the distribution of young talents;
- eliminates the percentage of significant loss;
- minimizes the instruction time;
- adequately directs children towards suitable disciplines;

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- helps to attain more rapidly upper performances;
- avoids useless efforts and material expenses;
- enhances the sporting longevity.

To ensure the success of the selection process it is necessary to have a deep knowledge of somatic, psychological and motor qualities of the concerned sport, as well as to make sure the selected group have these qualities on an elevated level.

According to the specialists' opinion, in artistic gymnastics the optimal age range of selection is 6-7 in boys, and 6 in girls. Around this age, te child has te basic aptitudes required by the early stages of the artistic gymnastics training period.

In the initial selection process, special attention should be allocated to the detection of talented children because the gymnastics is a sporting branch of high technicity requiring a very rapid development. Children aged 6-7 do not feel fear about physical exercices, they like motion, are receptive to the learning of technical elements, are motivated in a continuous participation to training sessions.

Hypothesis

In our opinion, we can contribute to the improvement of the primary selection for detecting the children with effective aptitudes imposed by the artistic gymnastics, by means of an appropriate strategy.

Objective

The goal of this paper was to present the strategy applied within the framework of the initial selection done in 2004 at the School Sports Club in Bistrita with te view to shape the boys'group of beginner gymnasts. Preponderance was given to the presentation of an own specific task to find out te aptitudes necessary to the artistic gymnastics.

Subjects and methods

To confer a scientific chracteristic to the selection process, we made a questionnaire examination before the proper approach of our study..

A questionnaire for teachers specialized in gymnastics and one for gymnasts with praiseworthy results in various national and international championships were elaborated.

The teachers' questionnaire comprised ten open questions, whilst that for gymnasts included 14 open questions.

Ten teachers and 20 acknowledged gymnasts underwent the questionnaire investigation.

Based on the results obtained in the two questionnaires we applied the test battery of control tasks consisting of:

- five general events
- four specific events
- six own events

In the selection session participated 148 subjects, both from those detected in preparing groups from Bistrita town kindergarten, and from subjects taken to the gym by their parents of their own initiative.

Out of 90 children subjected to the control events, 23 were selected. By the end of the 2005 school year there were 12 trainees, the rest of subjects giving up gradually.

Analysis and interpretation

Due to the space scarcity, we make the analysis of only two answers given by questionned teachers, as follows:

1. To what extent do you consider the prognosis of initial selection performances has any direct relevance to subsequent sports performances?
2. Place the ranking of motor and psychosomatic qualities in achieving performances in men's artistic gymnastics by alloting a score from 10 through 100 for any of the following aptitudes: specific skill, explosive force, joint mobility, muscular elasticity, coordination, space and temporal orientation, static and dynamic equilibrium, force.

Table 1.

Subjects' answer to the first question

Answers	**No. of subjects**	**Percentage**
Close selection	4	40%
Close selection and coach's role	2	20%
Work and psychical qualities	2	20%
The psychical qualities cannot be predicted with the initial selection	1	10%
The psychical selection is the first link in getting subsequent upper performances	1	10%

Table 2.

Subjects' answer to the 2nd question

Score	**Specific skill**	**Explosive force**	**Joint mobility**	**Muscular elasticity**	**Coordina-tion**	**Space an temporal orientation**	**Static and dynamic equilibrium**	**Force**
50		2				3		2
60				1	1		4	
70				6		2	3	
80	4	7	6	1	5		2	6
90	1		3	1	3	4	1	1
100	5	1	1	1	1	1		1

As for the questionnaire completed by the acknowledged gymnasts, we present the results to the answers only to a single question, namely: “What psychomotor qualities are necessary to get sports performances in gymnastics? Please name them!”.

The answers to this question are illustrated in Table 3.

Table 3

The answear of gimnasts

Current No.	**Motor qualities**				**Psychical qualities**			
	Speed	**Force**	**Skill**	**Mobility**	**Courage**	**Ambition**	**Perseverance**	**Will**
1		x	x	x	X			
2		x				X		
3						X		
4			x	x		x	x	
5								
6								
7								
8								
9								
10	x	x	x		x		x	
11			x				x	x
12			x			x	x	
13		x			x	x		
14		x		x			x	
15		x	x	x		x		
16								
17	x		x			x		X
18		x	x		x			
19		x	x			x	x	x
20			x			x	x	
TOTAL	**2**	**8**	**10**	**4**	**4**	**9**	**7**	**3**

The results obtained in the general, specific and own control events are presented in Tables 4,5 and 6.

Table 4.

Control general events

20 m Running		**Standing long jump**		**Trunk raising**		**Coccygeal and femoral mobility – anterior plane**		**Shuttle**	
X=4,65	W=1	X=113	W=12	X=16,5	W=7	X=59,2	W=7,6	X=14,25	W=1,7

Table 5.

Control specific events

Traction		**Floating**		**Kept hanging**	
X=1,25	W=2	X=4	W=5	X=34,6	W=32

Table 6.

Control own events

Space orientation of body motions and postures		**Static equilibrium**		**Dynamic equilibrium**		**Performing speed**		**Vestibular apparatus**	
X=4,1	W=2	X=4,25	W=2	X=4,08	W=3	X=4	W=3	X=4,08	W=3

Furthermore, we present the two own events (established and considered by us to be significant).

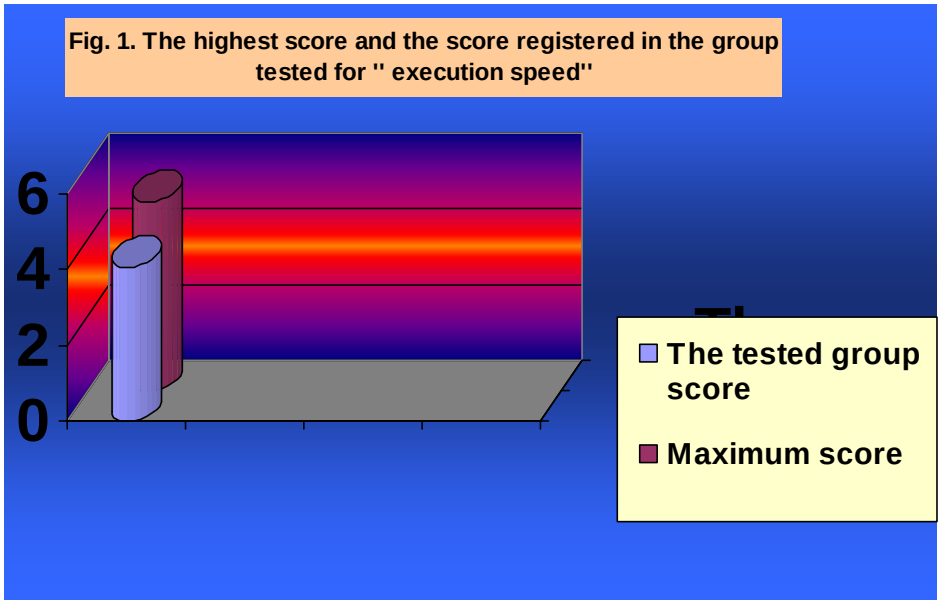
The first event was done to check the performing speed and consists of the following tasks: Dorsal lying with the upper limbs raised- lower limbs positioned over head until the tips reach te soil, return to the first position, trunk elevation and bending forward, the hands reaching the toe tips, return to the initial position.

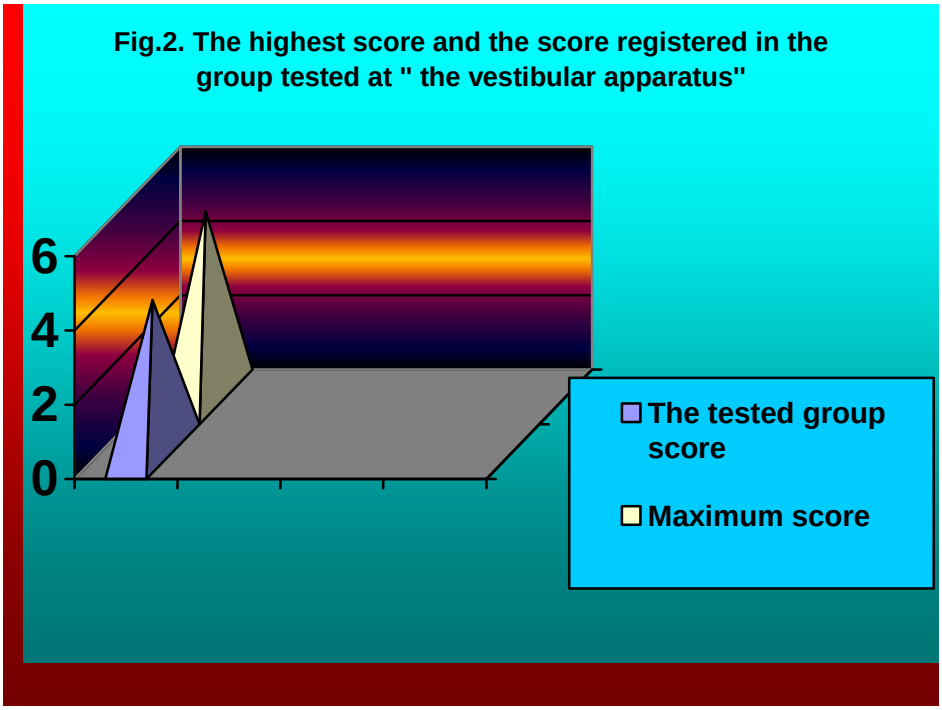
The second event was done to verify the vestibular apparatus. From supported rolling up, backward somersault, forward somersault, with one jump, 90^0turning and walking in equilibrium, three steps on a straight line.

To evaluate the results obtained in the two events we applied the following value scale:

- very good: 5 points
- good: 4 points
- moderate: 3 points
- poor: 2 points
- very poor: 1 point

The results obtained in the two events are presented in Fig. 1 and 2.





Conclusion:

1. The study of the specialist literature and the use of questionnaires for teachers and gymnasts constitute the basic theoretical ground of the initial selection subsequent approach.
1. The 6-7 age range is the most favourable for the initial selection in artistic gymnastics.
2. An efficient initial selection is the first link in achieving upper sports performances.
3. The artistic gymnastics requires the assignement of a special attention to the specific skill, mainly in the selection process and in all the training stages.
4. The majority of the gymnastics coaches do not use own events during the selection.
5. A high percentage of the questionned gymnasts think the main motor qualities
6. characteristic of gymnastics are: force, mobility, specific strength, ability and speed.
7. An appropriate selection requires te establishment of some own events to check the development level of the main psychosomatic aptitudes in artistic gymnastics.

REFERENCES

Barta,A.,(1995), *Deprinderi motrice la preşcolari*. Ed. V& I Integral, Bucureşti.

Bocu,T.,(1997), *Selecția în sport*. Ed.Dacia, Cluj-Napoca.

Golu, P., Zlate,M., Verza,E.,(1998), *Psihologia copilului*. Ed. Didactică şi Pedagogică, Bucureşti

Nicu, A.,(1993), *Antrenamentul sportiv modern*. Ed. Editis, Bucureşti.

Paşcan, I.,(2003), *Dezvoltarea aptitudinilor psihomotrice în cadrul gimnasticii acrobatice*. Ed. Casa Cărții de Ştiință, Cluj-Napoca.

Tomşa, G., (2005), *Psihopedagogie preşcolară şi şcolară*. Ministerul Educației şi Cercetării, Bucureşti.

EXPERIMENTAL APPROACHES TO THE ROLE OF EXPLOSIVE FORCE IN THE IMPROVEMENT OF THE LEARNING AND PRACTISING OF THROWING TECHNIQUES

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REZUMAT. Modalităţi de abordare experimentală a rolului forţei explozive în optimizarea învăţării aplicării tehnicilor de aruncare. Lucrarea tratează pe larg urmatoarele probleme:

1. Importanta relatiei putere – forta – viteza
2. Metode pentru dezvoltarea fortei explosive
   - Metode si procedee de dezvoltare a puterii maxime anaerobe si a detentei
   - Metoda eforturilor explosive
   - Metoda eforturilor mijloci
3. Mijloace pentru dezvoltarea fortei explozive
   - Exercitii de baza pentru dezvoltarea fortei explosive a trenului inferior
   - Exercitii de baza pentru dezvoltarea fortei explosive a trunchiului si bratelor
4. Conditiile derularii experimentului

In final putem concluziona ca urmându-se programul ce rezulta din graficele experimentului privind forta exploziva se constata contributia acestora asupra eficientei procedeelor si cresterea puterii, cunoscându-se ca forta si viteza au atins cote superioare fapta care a condus la rezultate superioare in cadrul competitiilor de nivel national si international.

Analizant coeficientii de eficacitate a sportivelor privind dezvoltarea fortei explozive a trenului inferior, se constata o crestere semnificative in lunile anului 2004 cand s-au executat cate 2 sedinte specifice de pregatire saptamanala.

Aceasta crestere se datoreaza seriozitatii sportivelor care au respectat cu strictete planurile individuale de pregatire.

Metodele si mijloacele folosite, precum si cuantificarea acestora, au fost bine selectionate.

Dezvoltarea fortei explozive a condus la perfectionarea elementelor si a procedeelor, determinand rezultate superioare in competitiile nationale, europene si chiar a celor mondiale. În paralel cu sustinerea sedintelor de pregatire pentru dezvoltarea fortei explozive, a testelor sustinute de

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sportive, pregatirea acestora s-a completat cu pregatire fizico-tehnico în cadrul lotului olimpic feminin.

The paper mainly deals with the following aspects:

1. The importance of the power-force-speed relationship
2. Methods for developing the explosive force
    - Methods and procedures for developing the maximum anaerobic power and spring
    - Explosive efforts method
    - Average efforts method
3. Methods for developing the explosive force
    - Basic exercises for the development of the inferior train's explosive force
    - Basic exercises for the development of the trunk and arm's explosive force
4. Experimental procedure and its conditions

We can conclude that, following the programme that results from the graphic of the experiment concerning the explosive power, the methods taken into account contribute to the effectiveness of the procedures and to an increase in physical strength. For this accounts the fact that the force and speed attained higher levels, which led to the achievement of superior results in national and international competitions.

By analyzing the sportswomen's efficiency coefficients regarding the development of the explosive force of the inferior train, we observe an important progress in 2004 when two specific training sessions were executed on a weekly basis.

This improvement is also due to the earnestness of the sportswomen, who strictly respected their individual training plans.

The methods used and their quantification were selected appropriately.

The development of the explosive force led to an improvement in elements and procedures, which brought about superior results in national, European and even international competitions. Besides the training sessions for the development of the explosive force and various tests, the sportswomen's programme included a technical and physical training within the Women's National Olympic team.

BICOMPETITION TRAINING CONTENT IN WOMEN ARTISTIC GYMNASTICS

VLADIMIR POTOP[1]

REZUMAT. Conținutul pregătirii biocompetiționale în gimnastica artistică feminină. Gimnastica artistică în prezent, prin noile modificări ale codului de punctaj, prezintă un nou conținut al exercițiilor, privind evaluarea şi compoziția acestora. Pentru aceasta am considerat că, dacă ordinea de desfăşurare a concursurilor pe categorii de clasificare permite participarea la ambele concursuri consecutive, atunci ea va conduce la pregătirea bicompetițională şi posibilitatea participării la ambele concursuri. Rezultatele studiului au evidențiat că, această orientare metodologică poate servi ca o metodă eficientă de pregătire, rar întâlnită în gimnastica artistică, deoarece depinde de calendarul competițional, nivelul de pregătire al gimnastelor şi caracteristicile efortului competițional la diferite nivele de pregătire.

At the present moment, according to the new provisions of the International Code of Points, the artistic gymnastics involves a complexity of the exercises contents, which determined modifications within the evaluation process of these ones. The new components of the evaluation focus on the following problems: exchange of the elements difficulty level, of the requirements on groups of elements and of the values of linking together the high difficulty elements.

The main purpose of this work is to introduce the contents of the bi-competition training and the efficiency of this one related to the increase of the performance capacity in women's artistic gymnastics in accordance with the new modifications of the International Code of Points and of the classification program in women's artistic gymnastics.

In order to solve these methodological problems, we suggested the following *hypotheses:*

We consider that the carrying out order of the competitions in classification categories allow the participation in two consecutive contests, thus it is possible to realize the bicompetition training and to participate in both contests.

The optimization of the training by improving the 4th category elements at each apparatus and the learning of some technical elements necessary to the 3rd category within the same training will lead to the bi-competition training in women's artistic gymnastics.

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Organization and carrying out of the study

The study was carried out during a two months period (April 20 – June 2, 2006) and observed the bi-competition training within the School Sports Club no. 2 of Bucharest, where the training and the participation in both national competitions for children and juniors at 3rd category level were followed. The research subjects were female gymnasts 10 years old, last year of category.

The study took place in three stages:

Initial stage (April 14, 2006)– it includes the results got at the school national contest– 12-14.IV.2006 Buzău.

Fundamental stage (April 17– May 29, 2006) – competition mezzo-cycle, which focused on the preparation program during the training sessions.

Final stage (May 29 - June 2, 2006) – general accommodation, competition at 4th and 3rd category.

Methods of research that were utilized:

- *method of bibliographic study* regarding the documentation for the work subject matter, related to the effort characteristics and the new requirements of the International Code of Points;
- *observation method*, which was performed along the whole study carrying out; it focused on the evolution of the gymnasts' preparation during the training sessions and the competition;
- *video method*, by means of a digital photo camera Hp 435 in order to improve the execution technique with the help of the records made during the training sessions and the competition;
- *experimental method*, used with the purpose to confirm or infirm the hypotheses of the proposed study.

The competition mezzo-cycle contents, concerning the bicompetition training:

The bicompetition training was carried out during 38 training sessions, each one containing 4 micro-cycles that lasted 240 min. per training session and, respectively, 2 micro-cycles - of 180 min.

Training targets: improvement of the performances of 4th category and learning of the technical elements needed to the 3rd category at each apparatus.

- Physical training: maintaining of the muscular strength level and the specific articular mobility.
- Technical training:

1. Vaults: improvement of the handstand up and learning of Tsukahara with backwards tucked salto and the second spare vault: handspring forward with ½ turn (180º) on – ½ turn (180°) off (in elther direction), actually presented in the competition.

2. Uneven parallel bars: maintaining of the 4th category training level by performing the integral exercise and learning the dismount by backwards tucked double salto (with and without help) and of the integral exercise for 3rd category within the same training session.

3. Beam: improvement of the 4th and 3rd category elements by checking up the exactitude of the integral exercises performance.

4. Floor: improvement of the acrobatic elements, learning of the acrobatic elements backwards tucked double salto and backwards stretched salto with 2/1 twist (720º).

- Artistic training: improvement and correction of the mistakes in the artistic elements and somersaults included in the integral exercises at beam and floor.

The training content at the apparatuses was the same, but customized depending on the training level of the female gymnasts, with variations given by the apparatus order during the training session; the training was concretized by a number of repetitions, performed with and without help, appreciated as successful or unsuccessful attempts.

During the competition training were also performed checking up training sessions, and gym exchange at School Sports Club no. 3 Steaua Bucharest.

During the checking up training sessions, besides the proper verification, at each apparatus were performed the elements of the 3rd category, depending on the gymnasts' condition.

In table no.1 are listed the results got at the School National Championship, 12-14.IV.2006 Buzău, at 4th category, where after a single evolution in the competition, the team classification is made at the all-around and apparatus finals. The results emphasize the gymnasts' training level as a training goal for the next competition stage.

In table no.2 are shown the results got at the Children's National Championship Constanța - 31.05-1.06.2006, carried out in two days: team and all-around – first day; apparatus finals – second day.

In table no.3 are shown the results got at the Juniors National Championship, 3rd category, Constanța 2.06.2006; as she participated in this level too, the gymnast Ș-C qualified herself for the national final, which will take place in November 2006.

In each table are listed the marks given by the jury „A", the jury „B", the final mark at each apparatus, the total score, the apparatus finals and all-around finals classification.

In the figures below are presented *sequences* from the competitions included in the proper study.

Children's National Championship, Constanța 31.05-1.VI.2006

Fig.1. All-around finals Ș.C. 1st place and Ș.M. 4th place (tie)

Fig.2. Uneven bars: Ș.C. 1st place

As for the results obtained at the two national competitions, school and children's, the following matters are rendered evident at 4th category (table no.1 and 2):

- At vaults, the performance is maintained, with a classification on 2nd place and a decrease of the final mark;
- At uneven bars, an increase of both performance and start mark, with a classification on the 1st and 4th places;
- At beam, the performance is maintained, with a classification on 2nd place and the increase of the start mark;
- At floor, an increase of both the performance (with a classification on 3rd and 4th places) and start mark.

Fig. 3. Beam routine, 3rd category:

a) Flic-flac step-out, backward stretched
b) Free (aerial) walkover forward - salto (Ț.M) Danilova (Ș.C)

Regarding the results obtained at the Juniors National Championship at 3rd category, the following matters are rendered evident (table no.3):

- at vaults, the sportswoman Ț.M, as she did not performed well the vault, received 0,00 points; both gymnasts executed the same vault as group and difficulty value;
- at uneven bars, the sportswoman fell down during the landing, slipping on the mat;
- at balance beam, the sportswoman Ș.C had a very good routine, obtaining the second mark of the competition;
- at floor, both gymnasts did not perform the newly learned elements (double salto for Ș.C and stretched salto with 720º for Ț.M).

For lack of a recovery break between the competitions, the effort made by the gymnasts was far beyond their physical and psychical capacities, so that during the competition at 3rd category they were no more able to execute the newly learned elements too. If the regulation had allowed the gymnasts' initial participation at 3rd category and then at 4th category, then the newly learned elements too would have been executed.

This supposed modality to carry out the competitions, with a recovery break between them, can serve as necessary but efficient way of training in the artistic gymnastics.

Conclusions

The results of the study emphasized the fact that this methodological orientation can serve as efficient method of training for the performance capacity increase. Totally depending on the competition calendar, the gymnasts' training level and the characteristics of the competition effort at different training levels, this orientation is rarely present in the artistic gymnastics.

The bicompetition training is realized if the carrying-out order of the competitions according to the classification category allows us to participate in both consecutive competitions.

The optimization of the training by improving the 4th category elements at each apparatus and the learning of some technical elements necessary to the 3rd category within the same training session will lead to the bi-competition training in women's artistic gymnastics.

All these aspects contributed to a faster passage from one training level to another, to the accumulation of a competition experience and to the improvement of the gymnasts' training contents by learning some elements of high difficulty necessary to a higher classification category.

REFERENCES

Dragnea, A., Mate-Teodorescu, S., (2002), *Theory of Sport*, Bucharest, "Fest" Publishing House

International Code of Points 2001-2004 and 2005-2008, FIG

Official Statement regarding the new requirements for the Program of Classification 2006, FRG

Program of Classification 2002-2004, Women's Technical Commission, FRG

Potop V., (2005), *Motor Learning and Transfer in Performance Artistic Gymnastics*, Bucharest, "Bren" Publishing House

Vieru, N., (1997), *Manual of Sportive Gymnastics*, Bucharest, "Driada " Publishing House

THE BASKETBALL FEMALE PLAYERS' SATISFACTION IN TRAININGS AND GAMES

MUŞAT SIMONA[1], DIAMANTAKOS IOANNIS[2]

REZUMAT. Satisfacția jucătoarelor de baschet cu procesul de pregătire. Dacă antrenorul te apreciază corect, la adevărata valoare, dacă are încredere în tine şi antrenamentele sunt variate şi metodico-ştiințific programate, dacă atmosfera în cadrul echipei este îndreptată spre performanță, lăsând la o parte toate celelalte influențe care pot perturba pregătirea, atunci sportivii pot spune că au un climat adecvat creşterii performanței. Dacă toate acestea sunt urmărite şi îndeplinite avem de-a face cu satisfacția profesională, atât față de activitatea de pregătire şi concursuri, cât şi față de organizația (echipa) din care face parte fiecare sportiv.

În ceea ce priveşte satisfacția la activitatea de echipă există unele corelații semnificative, nu şi la satisfacția cu clubul din care fac parte jucătoarele. O explicație ar putea fi deoarece clubul, ca organizație, nu are un rol aşa de clar definit, granițele organizaționale sunt destul de vag definite, acesta, în cazul multor echipe având doar responsabilități administrative minime.

La acest studiu au participat 108 jucătoare de baschet din liga profesionistă a României. Vârsta medie a oscilat între 14-35 ani (M = 19.4 ani; AS = 3.88). Participarea la antrenamente era 2-4 (M=2) ore zilnic (AS=.70). Experiența ca jucătoare de baschet oscila între 1-23 ani (M=8.5, AS=3.93). Vechimea în echipă în momentul testării a fost în medie de 2.8 ani (AS=1.92), intervalul de variație fiind între 1-9 ani. În ceea ce priveşte minutele jucate pe meci, acestea erau în medie de 23.18 (AS=11.93) ceea ce se distribuia pe o întindere de 3-40 minute.

Cercetarea poate da o serie de indicii legate de performanțele echipei de baschet, sugerând totodată şi necesitatea organizării unor programe de asistență psihologică.

The player who is part of the competition has responsibilities directly proportionate with the importance of the game, with his level of training and the level of his own expectations, but also with his position, his role and his place in the team.

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The sense of responsibility does not restrict itself only to the performance, but it is reinforced and sustained by the behavior towards his/her partners, adversary, arbiters and spectators.

During the training the player is trained to dose hit effort. As a consequence the coach expects from the player certain reactions, certain performances. It would be easy if the performance would depend only on the quantity of work done or on the capacity of effort, but it depends on a complexity of factors as the players' personality, the momentary temper, the reaction to stress.

Work behaviour has also a negative connotation beside one focused on performance. It is what was named counter-productive behaviour.This one splits into deviated behaviour towards organization and towards activity mates.

In the dishonest behaviour takes part also the thefts generally speaking, towards the team and its leadership but also can take other forms such as time theft (delays, leaving earlier from the coaching under different reasons, avoiding coaching under fictitious accidents),or a dishonest communication with the fellow members, technical staff, the club management. All these behaviours lead to the lowering and alteration of the efficiency of the training. It is the moment when the sportive psychologists must intervene and their part should be one of introduction of a proper organizational culture.

The absence from the training sessions does not lead to the growth of the performances. Those who are not training can not have good results as they are expected to.

Counter-productive behaviour trough **interpersonal deviation** the most frequently met inside the team is gossip, which can lead to the destruction of the confidence among the team members, can lead to quarrel, verbally abuse, and even to beating.

Organizational deviation towards the team manifest itself trough theft, the destruction of the team's goods, and to sabotage (arranged games).

On the other side is the organizational behaviour.The team members help each other as much on the field as much as on the other moments of their lives. They collaborate and communicate to accomplish the target established by the team leadership.

The atmosphere among the team is one of a family and in this way can form a whole, which under the leadership of a capable coach can have desirable results. If the coach correctly appreciates you, at your true value, if he trusts in you and the coaching sessions are multiple and also methodical -scientific programmed, if the atmosphere inside the team is focused on performance, leaving outside the rest of the influences which can disturb the training session ,then the sports men can say they have an atmosphere proper to the growth of the performances. If all these are followed and accomplished we deal with the professional satisfaction as much as towards training activity and contests as much as towards the organization (team) that each sportsman takes part of.

METHODS

Organizational Citizenship Behaviors (OCB). OCB was measured with Van Dyne and LePine's (1998) scale, which includes 7 items on helping and 6 items on voice behavior. Participants indicated how much they agree with the items on a 1-7 scale (1=strongly disagree and 5=strongly agree).

Counterproductive Work Behavior (CWB). CWB was measured using the 19 items CWB measure from Robinson and Bennett's (1995). Participants were asked to rate on a 1-5 frequency scale (1=never and 5=every day) to indicate how often they engage in certain behaviors.

Job Satisfaction. The scale of Job Satisfaction was taken from *Occupational Stress Indicator 2* (OSI - Williams, 1996). Tehis scale is composed by 12 items. Te answers being given by the Likert scale with 6 points. The Job Satisfaction scale have two subscales: Individual Job (JI) and Organization Job (JO).

108 female basketball players participated in this study. Age average (M) is of 19.4 years with an exception of 3.88. The age of the players is between 14-35 years. The training lasts 2-4 (M=2) hours daily (AS=70). The experiences basketball players oscillate between 1-23 years. The experience in the team of the players is in average of 2.8 years (AS=1.92) – the interval of variation being between 1-9 years. As regards the minutes played every game they have an average of 23.18 (AS=11.93) the distribution being of 3-40 minutes per game.

The research has been made in small groups of 10-12 players during the period of the cantonment.

RESULTS

Table 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
varsta	108	14	35	19.42	3.88
ore ant	108	2	4	2.50	.70
zile de antr	108	3	6	5.52	.59
ani de bas	108	1	23	8.50	3.93
ani echipa	108	1	9	2.80	1.92
schimb ec	108	1	6	2.43	1.44
ji	108	13	33	24.47	3.76
jo	108	9	31	22.24	4.16
cwbm	108	7	34	19.15	6.22
cwbo	108	12	52	26.11	7.79
ocbajut	108	17	49	34.00	6.59
ocbexprim	108	14	40	27.10	6.25
ocbt	108	34	87	61.11	11.82
cwbt	108	23	75	45.26	12.10
Valid (listwise)	N108				

Table 2

Matrix correlations

	ji	jo	cwbm	cwbo	ocbajut	ocbexprim	ocbt	cwbt
ji	1.00							
jo	.59**	1.00						
cwbm	-.20*	-.23*	1.00					
cwbo	-.30**	-.04	.49**	1.00				
ocbajut	.18	.11	-.07	-.03	1.00			
ocbexprim	.25**	.04	.12	-.09	.69**	1.00		
ocbt	.24**	.08	.02	-.06	.92**	.92**	1.00	
cwbt	-.30**	-.15	.83**	.89**	-.06	.01	-.03	1.00

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The counter-productive behaviour at the experimental group have high scores. A possible explanation could be that the group which we utilise is trained in a exceptional competitive activity that differ from the special conditions of an ordinary work situation. The aggressive level is normally higher at the female basket players, in the same way as other emotional behaviour manifestations.

In a basketball team the relations between players are friendly, and helping one another. We also deal in our case with individualities clearly shaped. This way it can be explained the manifestation of aggressiveness but focused much more upon the opponent.

We can add that although our group of participants is one selected. Much more, the group has during the training some educational influences which sustained an elevated team spirit, respect for the opponent ethically speaking. Of course, the competition, no matter its manifestation inside the team but especially towards the opponent, encourages some aggressive behavior, emotional feelings positive and negative with a high intensity. This aspect can be observed clearly in our case comparable with a heterogeneous group and which manifests itself in larger environment.

We state that in what concerns the satisfaction at the team activity there are some representative correlations, but not at the satisfaction of the club that the female players belong to. An explanation must be that the club as an organization does not have such a well defined role, the organizational borders are rarely defined, this one, in the case of a lot of teams having only the minimum administrative responsibilities.

The research can give some clues concerning the performances of the basketball team, suggesting concomitantly the necessity of organizing some psychological assistance programmes.

REFERENCES

Murphy, K.R. & Davidshofer, Ch.O. (2001) Psychological Testing: Principles and Applications. Prentice Hall, Englewood Cliffs, N.J.

Robinson, S.L. & Bennett, R.J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38, 555-572.

Van Dyne, L. & LePine, J.A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41, 108-119.

Stress Indicator. Unpublished Ph.D. Thesis, UMIST, UK.

TEACHING STRATEGIES USED IN TENNIS MENTAL TRAINING

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REZUMAT. Strategii de instruire utilizate în antrenamentul mental din tennis. Antrenamentul mental este un proces complex, de-a lungul etapelor căruia sportivii învață să își valorifice resursele psihologice în vederea optimizării capacității de performanță. Pentru că procesul de antrenament este raportat permanent la timp, specialiştii folosesc strategii de instruire, bazate inclusiv pe biofeedback, capabile să mărească eficiența antrenamentului mental folosit în diferite ramuri de sport. În această lucrare am urmărit verificarea următoarelor ipoteze: vizualizarea, ca metodă de antrenament mental, asistată de neurofeedback, reduce timpul necesar procesului de corectare a loviturilor; similaritățile dintre conținutul exersării practice și cel al antrenamentului mental pot ameliora performanțele jucătorului de tenis în timpul competițiilor.

În această cercetare au fost incluşi 10 jucători de tenis de la diferite cluburi din Bucureşti, care au participat la şedințe de asistență psihologică. Strategiile de instruire au fost aplicate de-a lungul a 10 lecții. Exercițiile de antrenament mental au fost asistate de dispozitivul Peak Achivement Training (produs de NeuroTechnology, Inc., SUA). Cu ajutorul acestui dispozitiv au fost înregistrați parametrii pe baza cărora s-a apreciat progresul sportivilor în realizarea exersării mentale (amplitudinea undelor cerebrale, durata exersării mentale, numărul de cicluri relaxare – concentrare). Rezultatele obținute ne-au permis formularea unor recomandări de natură metodică privind antrenamentul mental din tenis, recomandări care contribuie la optimizarea metodicii antrenamentului în această ramură de sport.

Introduction

Mental training has been used on a large scale during the latest decades, as a complementary method particularly valuable for the athletes' technical and tactical training. And this happened when some great athletes, such as Arthur Ashe, Billie-Jean King, Martina Navratilova, Tim and Tom Gullickson, shared to the others their opinions about the mental training.

Visualization represents a mental training method consisting in the creation or the re-creation, in one's mind, of some events, in the absence of any external stimuli. The visualization technique is mostly used in the process of learning or correcting strokes.

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As mentioned above, in tennis this technique was successfully used by great champions. Chris Evert Lloyd (quoted by S. Zancu, 2000) asserted that: “Before a game, I carefully try to repeat in my mind what is to happen and what will be my reaction in certain situations. I imagine myself playing certain points typical from the standpoint of my opponent’s play style and of my own. I imagine myself playing a long and firm hit and attacking near the net at each opponent’s poor ball return. All these help me to be psychically prepared for the game even before I walk on the court”.

The aim of this paper is to present how visualization was used in the instruction destined to modify certain aspects of the technique of performing some strokes in tennis game, in juniors aged 14 to 16.

Within the ameliorative experiment, we checked the following **hypothesis**: visualization, as a methodical procedure of mental training, doubled by the use of neuro-feedback - as a method to amplify subject’s internal feedback, is important to correct strokes and to increase their efficiency during the game. Mental practice, assisted by neuro-feedback, was used in order to access the stocks of athletes’ performance capacity, stocks insufficiently rendered valuable, in most of the cases, through the training programs.

Research methods. The main research method was the case study which, together with the observation and the conversation, was used in order to establish, as correctly as possible, the players’ technical and tactical training level, their main execution mistakes, but also the learning objectives for the available period of time.

The ameliorative experiment used as an independent variable the computer-assisted visualization exercises. The dependent variable was represented by the technical procedure aimed by the coach in order to be corrected.

Within the assisted lessons, the mental practice task lasted 3 minutes, out of which 30 seconds represented the duration of the effective task (to perform 10 strokes, with an accent on a technical aspect different from one lesson to another). This task alternated with a rest task (of an equal duration), during which the athlete is asked to perform breathing exercises. Exercise duration was established depending on: the mean duration of a game at the age of 13 to 14 years old - 3 minutes; the mean duration of a ball played - 30 seconds; the duration of the break between two points - 25 seconds (according to regulations); the duration of the break between games - 1.30 minutes (according to regulations).

The mental practice task lasted 3 minutes, out of which 30 seconds represented the task duration, task that alternated with a rest one during which the athlete was asked to perform breathing exercises. Exercise duration was established depending on: the mean duration of a game at the age of 14 to 16 years old - 3 minutes; the mean duration of a ball played - 30 seconds; the duration of the break between games - 1.30 minutes. The total duration of the session was 10 minutes.

Athletes had to perform 3 series, each one with a 3 minute duration, of mental practice of the technical aspects involved by the procedures established

with the coach's agreement. Practice was made in the sitting on a chair position, eyes closed. During the break between the series, the athlete opened his eyes. We specify they mental practice took place before the practical lessons, at the athletes' training place.

From the total of 10 lessons of assisted mental practice, the last 5 lessons were destined to the visualization of some alternative game phases.

The neuro-feedback method refers to the electronic registering of the brain electric activity. In the context of the training program conceived by us, this method has also become an instruction means.

To register the modifications taking place at brain level, in the context of mental training, we used an electronic device similar to an electro-encephalopgraph, but in its portable variant, named *Peak Achievement Trainer* (PAT, patented by J.Cowen). Technical and specialty assistance to use this device was assured by the specialists from the Bucharest Kinetic Group Sport and Management firm. This electronic device can capture brain activity, respectively the differences of potential registered at the level of executive attention network, in different tasks. These information capturing is followed by their turning into electronic signal, subsequently taken by the computer and graphically represented. (Figure no.1.)

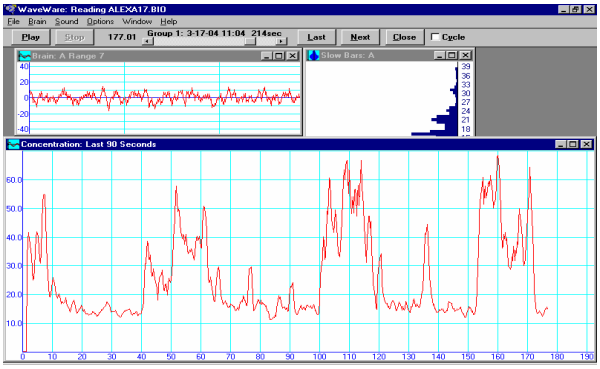


Figure no.1. Cerebral Activity recorded with PAT

On the above graph, it is represented the brain emission of electric signals, within a system of coordinates where on the abscise there are the seconds (marked every 10) and on the ordinate the energy emitted by the brain activity, expressed in milivolts (mV).

In the concentration tasks, it can be noticed the curve tendency to reduce its amplitude, while in the relaxation tasks the curve amplitude increases. At the same time, the device associates the brain activity characteristics with an emission of sound

waves which supplement the feedback received by the athlete during the mental practice. Through this method of brain activity registering, there were recorded the following parameters: the amplitude of cerebral waves, the duration of mental practicing, the number of concentration - relaxation cycles performed by the athletes.

Research organizing. The research was run during the competition year 2003 - 2004. The training program included 10 sessions. The number of sessions was established on the basis of the prescriptions given by the specialty literature, regarding the neuro-feedback-assisted instruction. Activities took place once a day, before the practical lessons, and lasted 30 minutes.

The last 5 lessons of psychological assistance were destined to the putting into practice of the exercises included into the mental training program for the alternative game phase. Within this program, there were used the strokes performed during the previous practical lessons, they being combined according to some situations that could be met in the tennis game.

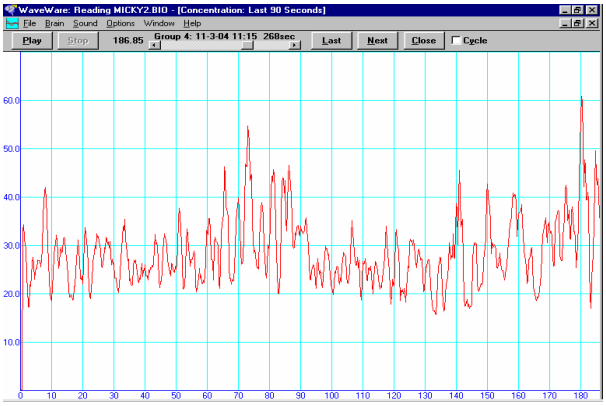
Mental practice consisted in the repetition of some technical and tactical structures, frequently used by the players of this age (for instance, backhand stroke along the line, cross backhand stroke and attack ended by a with short cross forehand stroke; forehand stroke along the line, reverse long cross forehand stroke and attack ended by a short cross forehand stroke; forehand stroke along the line, long cross backhand stroke, attack with a long cross forehand stroke and finalization with a volley backhand stroke etc.).

Exercises included 3 series of 10 repetitions each one, with 1 minute of break between the series. After the series of mental practice, there took place discussions with the athletes concerning the results provided by the neuro-feedback, about their internal sensations during the practice. At the same time, it was made the correlation between the information provided by the device registering the brain activity and those reported by the athletes.

Results and their interpretation. From the registered data, we decided to exemplify those obtained by one of the athletes, namely A. C., 14 years old (T. C. Herastru Club). In this player's case, the intervention aimed at optimizing the efficiency of his forehand stroke.

Lesson I. The best registration obtained by the athlete in the first lesson (graph no. 2) didn't show clear differences between his concentration and relaxation periods. During the first 65 seconds, it can be noticed that the oscillation amplitude goes a little beyond 40 mV. At the same time, the relaxation attempt between the mental practice of motor tasks is marked by the increase of wave amplitude to 55 mV, on the interval 65 – 85, and to 60 mV in the second 180.

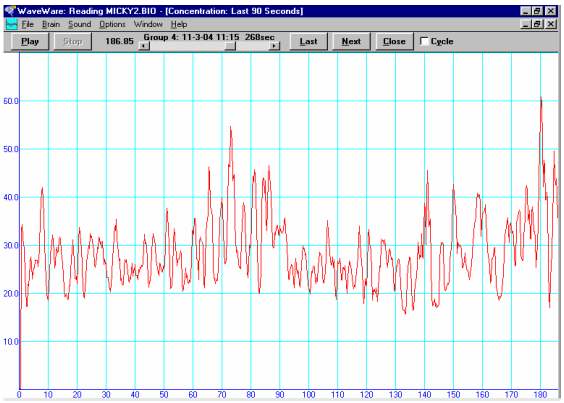
From this first analysis, we notice that it can't be made a clear difference between the two aspects of the psychical activity. We can appreciate that, for the respective tasks, the athlete didn't use his psychical energy in an efficient way.



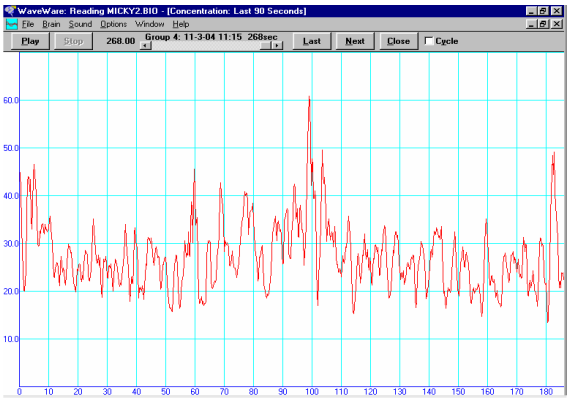
Graph no.2. Oscillation of the cerebral waves in 1st lesson

Lesson II. For this lesson, we decided to present two graphs, because not even the following day, although the athlete understood the way of working (according to his own reports), he didn't manage to clearly mark the two work tasks - of concentration on the technical execution and of rest (relaxation).

As we can see in the following graphs made for the 2nd and the 3rd series of mental practice, although the difference of amplitude between the two phases is not clear, in the concentration phase there can be noticed a tendency of oscillation grouping in the interval 20 - 35 mV, which shows that the concentration effort requires a more reduced energy consumption (graphs no. 3 and 4).

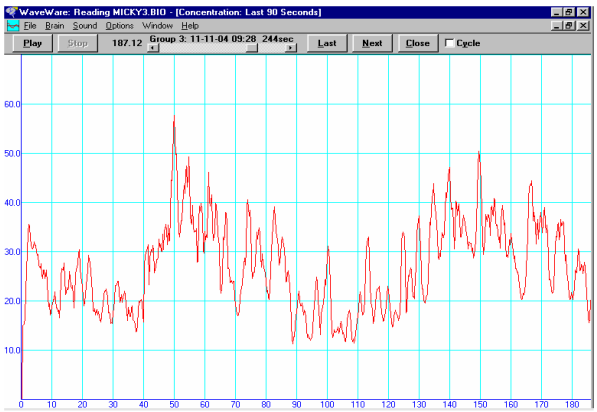


Graph no.3. Oscillation of cerebral waves lesson (series II)



Graph no.4. Oscillation of cerebral waves 2nd 2nd lesson (series III)

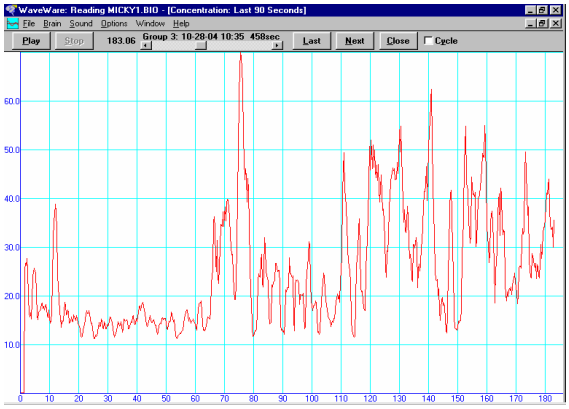
Lesson III brought the athlete's progress in his mental practice under the best conditions, respectively a rational energy consumption, fact proved by the more reduced amplitude of oscillations, comprised, on an average, between 12 mV and 32 mV. It also can be noticed that the duration of the mental task practice is relatively the same, in the sense that the first series of 30 lasted 40 seconds (from 0 to 40 seconds), while the next series lasted 34 seconds (from the second 88 to 122) (graph no. 5).



Graph no.5. Oscillation of cerebral waves 3rd lesson

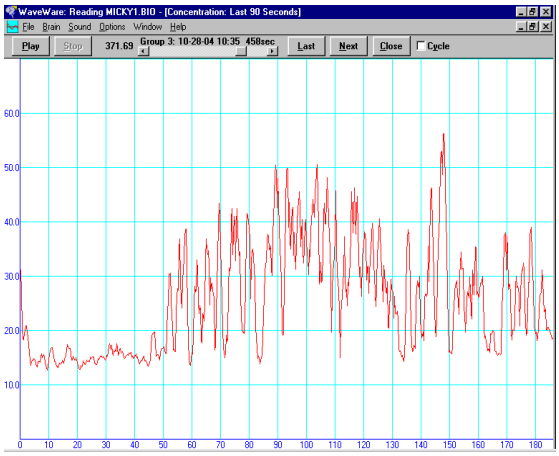
The fact that he integrated the mental practice of the coordination upper train - lower train while performing the forehand stroke shows the coherence of the landmarks necessary to this performing, as well as its rhythmicity. At the same time, these relatively equal durations indicate that the athlete keeps being concentrated on the motor task and he is not distracted by other events which could lead to missed executions.

An obvious progress is seen in ***lesson IV***, where athlete's concentration requires an optimum energy consumption: it is to notice the small amplitude of the cerebral wave oscillations (from 10 to 20mV), as well as the clear delimitation of the concentration phase after the first 65 seconds. We think that subsequently the practice was no more so relevant, because of the athlete's exaggerated enthusiasm when he registered a good result. The consequence was his incapacity to go on practising at an optimum level (graph no. 6).

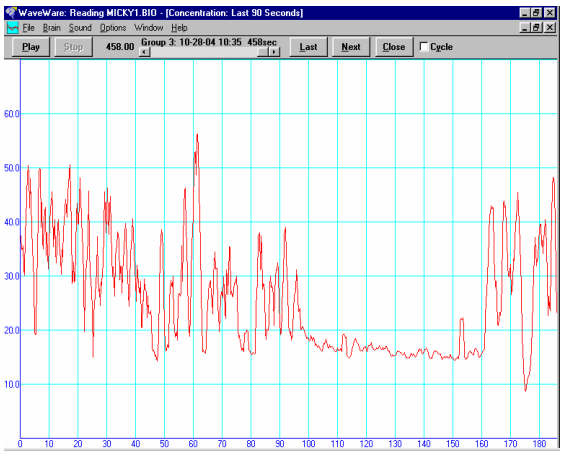


Graph no.6. Oscillation of cerebral waves lesson IV

In ***lesson V*** it can be noticed a clear distinction between the concentration task (seconds 1 - 50, graph 7, series I and 100 - 170, graph 8, series II) and the relaxation task. The reduced wave oscillation in the concentration task (about 15mV) emphasizes an optimum energy consumption. We also notice that the time necessary for the rest, in order to start practising again, was greater (the interval 60 - 180 seconds).



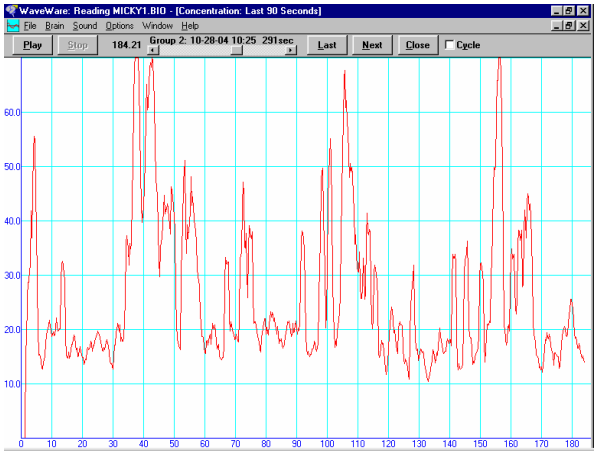
Graph no.7. Oscillation of cerebral waves lesson V (serie I)



Graph no.8. Oscillation of the cerebral waves lesson V (series II)

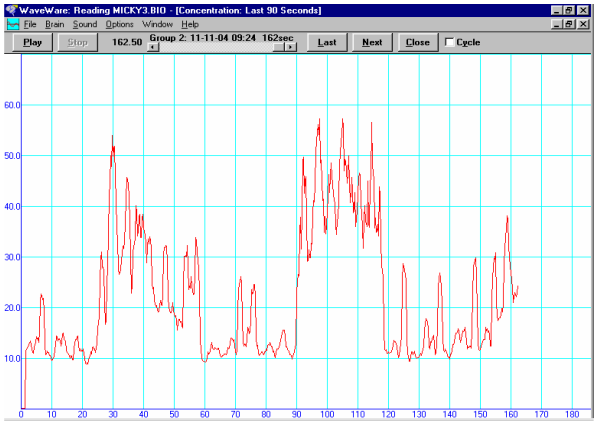
This very good result can be related to the fact that the mental task - of hitting the ball in the optimum point, offered the athlete less landmarks he was to concentrate on.

In ***lesson VI***, the task was to perform the visualization exercise in order to practice the technical and tactical structures in an integrated manner. The 3 series of 10 executions the athlete had to perform took each one about 35 seconds, by confirming the progress as compared to the previous lessons. We notice that, on an average, the cerebral wave oscillation is comprised between 10 and 20 mV, with greater amplitudes registered when the athlete's attention was distracted because of some missed strokes (this data interpreting was made on the basis of athlete's verbal reports) (graph no. 9, intervals 5 - 35 seconds, 60 - 95 seconds, 118 - 150 seconds).



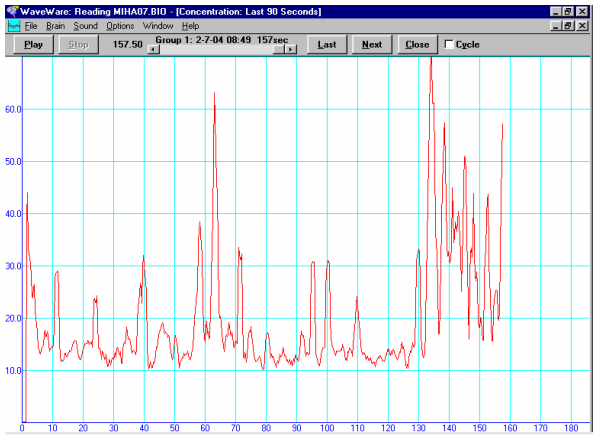
Graph no.9. Oscillation of cerebral waves

In ***lesson VII,*** the athlete have to modify the point of stroke, in order to change the shot direction, during global practice of the specific skills. Focusing the attention on the ball and its direction permit to the athlete to solve mental practice task, with equal duration (intervals 2 – 25 mV, 60 – 90 mV, 120 – 155 mV), which put in evidence the constancy of the strokes. In the same time we notice the law oscillation, about 10 to 15 mV, that indicate athletes' progress in using his mental resources. (graph no.10.) Even in this mental task it is about the possibility to stay focus on the ball, as a central issue of the execution.



Graph no.10. Oscillation of cerebral waves

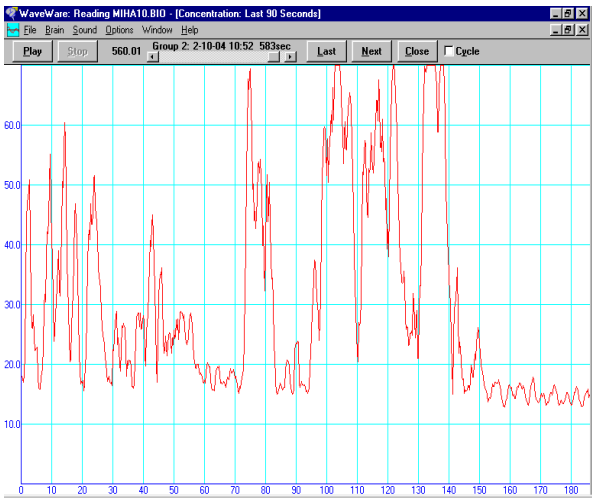
In ***lesson VIII***, the mental practice task was the visualization of strokes in their whole, the general body coordination in order to perform them. In the best performing, it can be noticed that, although the cerebral wave amplitude remained, in the concentration task, around the value of 15 mV, there were registered many "peaks", showing a certain incoherence when evoking stroke representation, but also some missed strokes (graph no. 11).



Graph no.11. Oscillation of cerebral waves

We think this evolution is the consequence of the fact that the technical and tactical structure the athlete had to visualize was more complexe by far than in the previous tasks. The landmarks the player had to visualize were more numerous, so that the mental evoking was damaged at some moments.

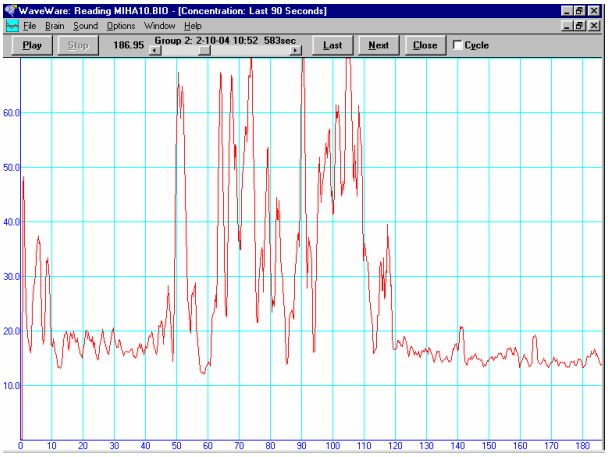
In ***lesson IX***, focused on the ball hitting while running, with an accent on movement coordination in order perform an efficient stroke, there were emphasized some particularities of the way in which the athlete approached such a complex task. First of all, the higher risk degree of this stroke determined a more difficult entry into the optimum concentration state (seconds 1 - 30, graph no. 12). The player succeeds in obtaining a good practice series on the interval 30 - 70 seconds and then, only by the end of the series (140 - 180 seconds) he manages to perform a mental practice under optimum concentration conditions.



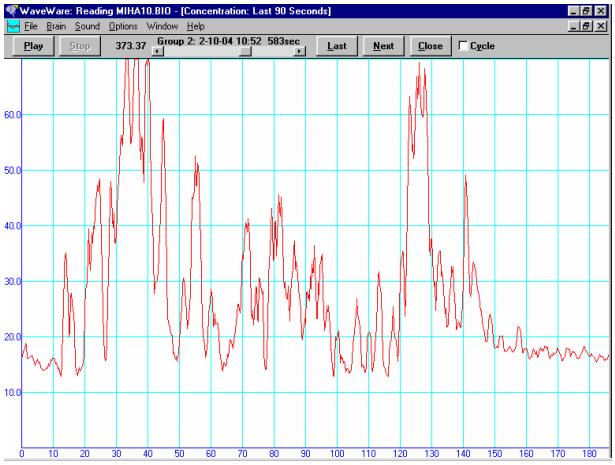
Graph no.12. Oscillation of cerebral waves in lesson IX

Because this lesson takes place before the athlete's first participation in a competition, we think that the way of approaching the motor task was influenced by his higher anxiety, a specific reaction before a contest.

Even under these conditions, it was found out that, in ***lesson X***, the athlete was able to concentrate himself on the task of performing the integrated strokes, with an accent on the optimum ball strike point (graphs no.13 and 14). In the intervals comprised between 10 - 50 seconds, 120 - 180 seconds (series I) and 140 - 180 seconds (series II), the cerebral wave oscillations remain under 20 mV, fact that shows a particular efficiency of the brain activity.



Graph no.13. Oscillation of cerebral waves in lesson X (series I)



Graph no.14. Oscillation of cerebral waves in lesson X (series II)

We also notice an important underline of the pause between mental practice series (between 50 s – 120 s, series1. On this basis, the athletes obtain the a low amplitude of the cerebral waves on the last interval of the 2nd series. For this tennis player we can appreciate that, from a lesson to other, he marked a progress in the development of concentration on a mental task. This aspect could be correlated with a very good level of the other cognitive processes.

Conclusions

Following the putting into practice of the mental training program and after the data processing and interpreting, we can draw some conclusions:

1. Mental practice tasks supposing reduced landmarks to follow through (for instance, the ball) favour the concentration of attention. For coaches, it becomes important to establish the key-points in the performing of each technical and tactical procedure, as well as their codication under the form of some clear images that should be used by the athlete in the visualization.
2. As the mental tasks become more complex (for instance, ball hitting while moving), the athlete needs more and more time for the mental practice, in order to determine the optimum moments that are to be evoked during this mental practice.
3. The efficiency of mental practice is conditioned by the moment of its insertion into the competition microcycle structure. Depending on the athlete's psychical training level, this one will need a different period of time to accommodate himself with the mental practice task.
4. Through the neuro-feedback-assisted mental practice, the athlete can feel an immediate satisfaction and thus it is stimulated his involvement into mental practice tasks, lees attractive under usual conditions.
5. The efficiency of mental practice depends on the development level of the psychical processes involved into learning. Thus, it was found out that athletes with a high capacity of concentrating their attention registered very good results in the respective tasks.
6. The efficiency of mental practice is conditioned by the attention focusing on external or internal aspects. Attention focusing on an external specific stimulus (the ball) facilitates the concentration of athletes' attention. We also think that the athlete himself can establish efficient landmarks to evoke the representations of technical and tactical procedures.
7. When the acquiring of a technical procedure is at a low level, the mental practice that aims at some performing details is not efficient. Under these conditions, we think that it has to be taken into consideration the stage of forming the representations and the motor skills corresponding to the consolidation phase.
8. The organizing of mental practice on the basis of space landmarks is achieved faster, in less lessons than that based on the temporal landmarks.
9. Relying on the collected data, we can assert that movements with a higher coordination degree, which suppose the performing of some movements in different plans and directions, provide landmarks more difficult to follow in mental practice.
10. The neuro-feedback-assisted mental practice can contribute to the identification of the problems related to the performing technique of technical and tactical procedures.
11. The aspects emphasized by the neuro-feedback can help to make observations about the similitudes with the concrete game situations.

12. By means of the neuro-feedback, there were identified particularities of mental practice under the conditions of some different skills: close or open. Thus, we can assert that, for the tennis game, some procedures, such as service, have to take into account, to a greater extent, the player's individual particularities, because this one, depending on his style, will hit the ball in a certain way. As for the close skill, the service programming will depend on the development level of the psychical factors involved into the movement control, but also on the athlete's psychical state. When the environmental conditions increase the incertitude about the ball hitting by using a certain procedure, (forehand stroke, backhand stroke), the athlete will mainly emphasize the characteristics of these movements (against their structure), by managing to better temporally organize his motor actions.

REFERENCES

BRAWLEY, S., (2003) *Arms control*. www.tennis.com

COWAN, J.,(2006) *Types of Peak Achievement Training*. www.peakachievement.com

DUSEK, D., (1999) *Six months to better tennis*. In: Tennis, februarie, New York Times Company

EPURAN, M., HOLDEVICI, I., TONITA, F., (2001) *Psihologia Sportului de Performanta*. Editura FEST, Bucuresti

EVERT, C., (2004) *Youth Program*. www.tennis.com

FELTZ, D.L., LANDERS, D.M., (1983), *The effects of mental practice on motor skills learning and performance. A meta-analysis*. In: Journal of Sport Psychology, nr.5

GALLWEY, W.T., (1997) *The inner game of tennis.* New York, Random House

GROPPEL, J., (2003) *Five Core Elements of the Game*. www.tennis.com

KATLAN, M., (2002), *Exercises to Help Strengthen your Weakest Shots*. www.tennis.com

VAN der MEER, D., (2003) *Rising Above*. www.tennis.com

COLLATERAL EFFECTS ON THE MORPHO-FUNCTIONAL DEVELOPMENT OF PERFORMANCE SPORTSMEN, GENERATED THROUGH THE TRAINING STIMULI

URZEALA CONSTANTA[1]

REZUMAT. Efecte colaterale asupra dezvoltării morfo-funcționale a sportivilor de performanță generate de stimulii de antrenament. Prin prezenta lucrare ne propunem să identificăm eventualele modificări nefaste apărute la nivelul coloanei vertebrale ca urmare a practicării gimnasticii aerobice de performanță. În acest sens, a fost ales un lot de subiecți constituit din 7 gimnaste, legitimate la clubul sportiv ANEFS, București, cu vârste cuprinse între 12 şi 14 ani. Ca metode de cercetare au fost utilizate observația, studiul de caz, somatoscopia, testarea computerizată Ergosim pentru stabilitatea coloanei vertebrale. Rezultatele obținute au permis stabilirea unor programe de kinetoterapie care să înlăture efectele negative ale efortului specific şi să amelioreze starea de sănătate a gimnastelor.

The training methodology for performance sportsmen is oriented towards the obtaining of adaptive modifications of the human body, including immediate and late ones, which would properly develop the performance capacity. However, the training methods are permanently doubled by negative collateral effects in the morpho-functional development of sportsmen, which would lead, in time, to a premature usage of the body, often accompanied by metabolic and cardio-vascular desorders or neuro-vegetative affections.

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The aim of this project is to identify the most frequent affections of the aerobic gymnastics performer, manifested at the spine level, because of the specific efforts which mainly influence the locomotion system.

The performance gymnastics hides behind the beauty of the gestures, the grace and the virtuosity of the executions, an unhealthier body, suffering from affections of the spine, the most common being the permanent distortion of the vertebras, changes of the anatomic curves, ciphosis attitude, asymmetrical members, improper body alignment, etc .

Such a conclusion is really very alarming, because a pathological spine decreases the entire functional capacity of the body, prevents the sportsman from a

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dynamic life and creates difficulties in sustaining professional, social or personal activities. The relation between the normal shape of the spine and the internal organs can be explained by pathology, through the vertebrogenic diseases. Any modification of the vertical posture of the body also influences the athletes' health. The joints usage, muscular solicitation, supplementary "charge" over one of the inferior members, create the premises of muscular and joints injuries which threaten the vertebral balance. This may lead to an unusual spine curving.

METHODS

The research took place during January-August 2006, in collaboration with the gymnasts (aged between 12-14) from the ANEFS Sportive Club, Bucharest, and the physical therapy center "S.C. Medisport S.R.L", Bucharest. The gymnasts' experience in sports consists in 5-6 years of practicing rhythmic gymnastics and then 2-3 years of aerobic gymnastics.

The research methods were: the observation; the study of cases; the somatoscopic evaluation; the computer "Ergosim" test for the muscular and joints function at the superior region of the trunk.

RESULTS

An evaluation chart was made for each gymnast, containing identification data and the somatoscopic evaluation. These information completed the "Ergosim" data and formed the basis of the studies of cases. The realized studies of cases helped us to identify the spine unusual modifications and the risks that the gymnasts are taken practicing this sport. Our next concern will be to apply the proper treatment for each subject, consisting in adequate physical therapy programs.

DISCUSSION

The most severe affection identified at the investigated subjects was the flattening of the thoracic column. This is a very rare disease among the common people and the performers of other different sports, therefore, in 5% of the cases. However, we cannot certify that the effects are due only to the practice of aerobic gymnastics. We take into consideration that the specific rhythmic gymnastics efforts suppose a lot of the extension of the column, which probably generated this disease.

This major risk, which threatens the gymnasts' health, must constantly be in the attention of the trainer, who is responsible of their morpho-functional development and of their lives quality.

All the gymnasts present a ciphosis attitude, which is explained through the obligatory posture during the executions. The gymnasts control their trunk muscles while performing and relax while pausing, adopting an improper posture.

We observe that the arms and the back muscles are not correctly developed, which endangers the spine stability and the maintaining of the body alignment. The balances of the pectoral arch and of the thoracic-lumbar region are estimated through the proportional muscular-joints functional index proved to be reduced, as a consequence of this insufficient trunk development. The lumber risk coefficient, of a high value for each subject, proves that this spine region is in danger to suffer changes from the physiological normal limits. This may lead to affections of the internal organs, as well as to compensatory changes of the other curves.

CONCLUSION

Judging from the studies of cases tests results, we concluded that the entire group suffers from serious spine affections. This makes us insist upon the importance of the regular medical consultations and of the prophylactic treatment that all sportsmen must undertake.

Our intention is not to determine children not to practice this sport, but to support the trainers, who have the obligation to correctly dose the training stimuli, at the same time with a prophylactic treatment. It must be done so, in order to avoid the possibility of traumas, of sportive performance risk factors and of a negative life. Thus, the identification of the sportsman's morpho-functional affections permits a proper treatment, which is to complete the training program, correcting the possible deficiencies and improving the sportsman's health.

REFERENCES

Bompa T., *Periodization: theory and methodology of training*, 2002

Cazeau. C., *Sports and traumatology,* 2005

Diaconescu, N., Veleanu C., Klepp H.J., *The spinal column,* 1977

Dragnea. A., Teodorescu. S., *The theory of sport,* 2002

Dragan. I., *Sportive applied medicine,* 1994

Poiraudeau. S., *Lombalgie of sportsmen,* 2002

Weineck. J., *Biology of Sport,* 1994