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ONE STEP PRE SET FIGHTING EXERCISES WITHIN KARATE DO PHYSICAL EDUCATION LESSONS AT THE UNIVERSITY OF BUCHAREST

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Abstract

Background. In the third year of study at Bucharest University, the students will include in their current practice of physical educational, lessons in Karate-do, the practice of one step fighting exercises (in japanese: Ippon Kumite or Kihon Ippon Kumite). This is also a requirement for the green belt examination or 6 kyu.
Sparring (Kumite) is the form of practice that has the most direct appeal not only to the beginner student but to everyone who has any interest in karate. Everyone wants to start sparring practice as soon as possible, and for this reason the students practice the fundamentals assiduously.
Objectives. To learn correctly a group of exercises of Sabaki (stepping and dodging), different positions and basic techniques of attack and defence (Kihon).
To perform the techniques correctly with proper breathing and correct posture, otherwise techniques, power, and correct spirit cannot be achived. A correct posture relaxes the body, has distinction and dignity as well as esthetic appeal and elegance for maximum efficiency.
Methods. The method used for this presentation concerning the specific Ippon Kumite exercises, practiced in Japan universities by the Japan Karate Association, will also be used by the students of the University of Bucharest in their third year of studies.
Conclusions. In sparring training, each student practices this type of Kumite (Ippon Kumite) according to his own level of progress. It is therefore necesssary to fully understand the distinctive features of the various types and to practice with the objectives clearly in mind.
Ippon Kumite is for studying offensive and defensive techniques, training in body movements and learning Maai (distancing). Mentally, the same like in another forms of Kumite exercise, the student will look for controlling emotions, fighting spirit, self esteem and determination The more advanced students will improve the finer points of Zanshin (awarness), Saho (etiquette), and Yomi (perceptivity).

Keywords: *prearrange fight with partner, Ippon kumite, Karate do Shotokan*

Introduction

During the physical education in Karate-Do lessons with the University of Bucharest's first year and second year students, a specific way of preparing is represented by a pre-established fight with an opponent, using the *Ippon kumite* exercises (which consists of one step fight). Sparring (kumite) is the form of practice that has the most direct appeal not only to the beginner but to everyone who has any interest in karate. Every student wants to start sparing practice as soon as possible, and it is for this reason that they practice the fundamentals assiduously. But kumite doesn't express a blind fight, with no rules. It is a confrontation conducted with the training partner based on full mutual respect. Kumite represents an ability test, courage and will in a pre-established fight situation. Because karate in its early days was used in fighting actual armed enemies and was itself perfected into a dangerous weapon, it wasn't until it became associated with the other Japanese martial arts that the concept of focusing the techniques just short of contact with the opponent was developed, making sparring possible. Mutual trust between opponents, which is said to be an important feature of the "morality" of Japanese martial arts, is expressed in the rules of sparring, where any actually strikes a vital point of the opponent is forbidden. This form of practice of fighting exercises specific to the Karate-Do discipline represents a concrete level of physical and mental performance reached by the students who practices Karate-Do Shotokan during lessons of physical education in University of Bucharest. They will train and fight in conformity with the pre-established conventions, respecting their opponents, following the ethics and the moral code of the martial

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arts and fair-play of sports. Relying on the correct understanding of the basic techniques, the students will eventually manage to express freely later, in a specific fighting form (Jiyu Kumite), where the mental and physical aspects learned and perfected during the lessons which will be absorbed.

Objectives

The aim of this kind of exercise is to learn correctly a group of exercises of Sabaki (stepping and dodging) and different positions and also basic techniques of attack and defense. It is important that the techniques be performed correctly with proper breathing and correct postures, otherwise techniques, power, and correct spirit cannot be achieved. A correct posture relaxes the body, has distinction and dignity as well as esthetic appeal and elegance for maximum efficiency. The more advanced students will improve the finer points of Zanshin (awareness), Saho (etiquette), and Yomi (perceptivity).

Methods

Before starting the execution of the specific *Ippon kumite* exercises, the same as in Sanbon kumite exercises (tree steps fighting), the students are advised to constantly keep in mind the following indications:

- The correct execution of the blocking techniques in kumite is very important. The one who attacks (Tori) must begin the fight all of the sudden, with a lot of confidence and speed, without making it obvious to the one who defends himself. The one who defends himself (Uke) must not be hasting, to maintain a sharp focus and to identify the beginning of an attack, to block efficiently and then contra attack.

- The students must understand and develop the sense of distance between them and correctly evaluate the moment when they have to enter the distance of fire or how to make the opponent come forward.

- The students must learn how to instantly make the change between defense and attack, or vice versa and how to know to constantly adapt to opponent's moves.

- The objective of the attack is a deep thrust or strike, decisive upon the opponent, but without reaching the target in a certain way (sundome).

- Kamae (guard position) must be without any inhibitions, flexible and stable. The moves must be in harmony with the movements and techniques of the opponent, while keeping under control his balance, rhythm and breath.

Facing each other, each student takes a turn in attacking with a predetermined level and technique of attack. First, they stand in Musubi Dachi (heels-together stance). Looking directly into his opponent's eyes, the attacker steps-back with his right foot (or left) from Hachiji Dachi (open-leg stance) to Zenkutsu Dachi (forward stance), executing Gedan Barai (downward block), forewarns his attack and level, then attacks force like in a real encounter while concentrating on the Tanden (point located under the navel). The attack must be executed at maximum speed and proper timing is achieved by watching the defender's breathing. The defender with a calm mind in harmony with the attacker simultaneously steps in the right direction blocking in a proper stance and immediately counter-attacks. The attacker resumes the original stance slowly inhaling and exhaling deeply concentrating on his Tanden, then relaxes and readies himself for the next attack. Likewise, in another forms of kumite (Gohon and Sanbon), the defender maintains briefly the last kime (uchi or zuki – the striking or punching arm) of his couter-attack to enable him to tense the proper muscles used in the different techniques. To acquire Zanshin, Saho and Yomi after his counter the defender will resume the original stance, inhaling and exhaling calmly at the same time as the attacker, looking directly into his eyes. It should be executed from both sides.

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Representative examples of *Ippon kumite* exercises are shown in the figures below:

Fig.1 Stepping back and blocking punching attack

Fig.2 Counterattacking

Fig.3 Simultaneously blocking and shifting sideways

Fig.4 Counterattacking to the inside of punching attack

Fig. 5 Stepping back and blocking kicking attack

Fig.6 Counterattacking

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The purpose of this training method being to train the beginners students in the principles of applying techniques, there are many examples which can be given, but the general lines are the same:

1. Stepping back, blocking punching attack, and then counterattacking. (Referring to Fig.1, Fig.2)
2. Stepping in, blocking punching attack, and then counterattacking.
3. Simultaneously blocking and shifting sideways to the inside of punching attack, and then counterattacking. (Referring to Fig.3, Fig.4)
4. Simultaneously blocking and shifting to the outside of punching attack, and then counterattacking.
5. Simultaneously blocking punching attack and counterattacking.
6. Simultaneously shifting and counterattacking.
7. Anticipating punching attack and counterattacking.
8. Blocking kicking attack and counterattacking. (Referring to Fig.5, Fig.6)

Conclusions

During the physically education lessons with the students of the University of Bucharest, one specific method of training is represented by the exercise of *Ippon Kumite* – fighting one person with pre-arranged techniques at one step. By exercising these techniques, the student will learn properly a group of exercises of Sabaki (stepping and dodging), the principles of applying techniques in different positions and basic techniques of attack and defense.

Correctly practiced, the *Ippon Kumite* exercises will also learn the student the concept of Maai (distancing). Mentally, the same like in another forms of Kumite exercise, the student will look for developing controlling emotions, fighting spirit, self-esteem and determination. The more advanced students will improve the finer points of Zanshin (awarness), Saho (etiquette), and Yomi (perceptivity).

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THE IMPLEMENTING OF PSYCHOMOTOR TECHNIQUES DURING PHYSICAL EDUCATION LESSONS IN HIGHER EDUCATION

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Abstract

Background. Psychomotricity, being a part of applied psychology, studies motor functions, integrated and coordinated by the psychic functions. Psychomotricity manifests itself as an ability as well as a complex process, which regulates individual behaviour. We can also define it as the art of controlling one's behaviour. The present paper deals with improving elementary motric behaviour: achieving general movement control using sports dance.
Objectives. This paper deals with the way in which applied programs made beneficiaries more aware of their bodies, also improving their cognitive function. The purpose of this paper is also represented by the assessing, using psychomotricity, of the coordination component and changes which appeared after applying the two programs and also by the assessing of the comparative study of these changes.
Methods. To draw up this paper, I have used the following methods: the bibliographical research method, the assessing and data testing one, mathematical statistics methods and also the graphic one.
Results. Both groups improve their initial parameters as a result of the training and learning process. However, the group which has done the exercises improved more than the group which simply watched. This observation leads us to the same conclusion: individualized preparation is superior compared to the face-to-face traditional one.
Conclusion. We can also explain why the results achieved by the experimental group are superior on account of the methodology used for implementing training strategies. During the psychomotor training process, the exercises focused on acquiring certain types of behaviour, allowing students to slowly apprehend the basic moves. This, in turn, led to a more accurate representation concerning the human body moves and its segments.

Keywords: psychomotricity, abilities, assessment, students

Introduction

In the encyclopedic dictionary of psychiatry (Gorgos, C 1991) the term psychomotricity generically defines any motor action, attitude or behavioral model that is under the influence of mental processes, showing that the two sides - mental and motor - cannot be separated.

In our country, M. Epuran (1976, p.114) dealt with this problem and defined psychomotricity as the expression of maturation and integration of motor and mental functions at the level required by the good functional integration of the individual in the environment."

Although in the literature there is a theory that sustains that motor skills are, in fact, a psychomotor skill, R. Singer (quoted by V. Horghidan, 1980) considers that psychomotor skills differ from motor skills in that they are more refined and include a higher degree manifestation of the perceptual and intellectual function."

Psychomotricity, as a component part of applied psychology, approaches the study of motor functions, integrated and coordinated by psychic functions. Psychomotricity appears both as an aptitude and as a complex function of regulating individual behavior. It is also associated with the idea that the art of mastering the body is also the first condition of mastering the behavior. The undertaken research approaches the improvement of basic motor behaviors: general dynamic coordination through aerobic gymnastics.

The coordinative capacity manifests itself as a psycho-motor quality, dependent on the central nervous system and skeletal muscles during a movement and its content is expressed in the precision of movements, respectively muscle contractions and their adaptation to the conditions imposed by the requirements of victory or to the motor response as efficient as possible to the opponent's actions.

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Dancing encourages body awareness, it develops ways of communication - but also ways of liberation, presenting multiple benefits for the mental and motor side. The implementation of movements with a beneficial role on the body, combined with elements of coordination and balance, as well as the acquisition of dancing skills and the mastery of some choreographies, are the basic elements when we want to achieve an improvement of the psychomotor behavior through dance.

As a form of exercise, dancing is beneficial both emotionally and physically - increasing muscle strength, coordination, balance and developing a better mobility.

The purpose of the research is to practice body awareness programs, which generate improvements of the cognitive capacity. Likewise, the evaluation, within psychomotricity, of the coordination component and the changes which appear as a result of the application of the two action programs and the comparative study of these changes.

Research methods

The following methods have been used:

- the bibliographic documentation method;
- the experimental method. The experiment performed is of an ameliorating type, because it aims to increase the efficiency of the instructive-educational process.
- the testing method was necessary to objectify all processes and other variables which are subject to scientific research. Matorin Test has been used.
- the statistical-mathematical method. The data obtained from the tests were analyzed and interpreted using this method.
- the graphical representation method allowed to express the processed data and the resulting acknowledgements.

The research hypotheses - *the use of psychomotor techniques in sports dance lessons will lead to a significant improvement in general coordination and balance***.**

Content of the research

Our research has been carried out at the University of Bucharest, during 8 months, between October 2018 and May 2019. In order to validate or invalidate the research hypotheses, two subject groups have been created, an experimental and a control one, each one with a configuration of 20 individuals.

The experiment consisted of systematic interventions, meaning dance programs dedicated to the development of the psychomotric skills, projected and planned for the experimental group, according to the age characteristics and respecting the methodological principles. The individuals of the control group have been part of a frontal instruction process, without having assigned during the class an exclusive sequence for the development of the psychomotric skills.

The intervention plan that has been applied to the experimental group consisted of the implementation of sports dance exercise structures aiming to enhance the coordinative capacity:

- movement pairing and combining capacity;
- differentiating capacity;
- control and direction capacity.

The following have been used:

- exercises lacking visual control;
- exercises that implied executing unusual motor tasks;
- exercises for the training of the rhythmicity capacity.

All the subjects have had initial and final tests, at the beginning and at the end of the experiment, aiming to estimate the influence of sports dance on the development of psychomotric techniques.

The test applied for the estimation of the influence that sports dance has over the psychomotric functions is Matorin Test.

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Research results

The results obtained by the two groups at the Matorin test are presented in tables no. 1 and 2.

The analysis of the general coordination using Matorin test has led to the observation at the experiment group of a 33,4% improvement of the 360° right turn jump, with significant differences at P<0,005, compared to the control group, where insignificant differences have been observed at P>0,005.

Regarding the 360° left turn jump, the experiment group showed a 30,13% improvement at the final test, with P<0,005, as opposed to the control group, that improved with only 6,09% at the final test, with insignificant differences at P>0,005.

Table 1. *Matorin test - turn 360 º to the right*

Group	T1- Initial	T2- Final	Improvement	Value of P
Experimental	249,4	328,8	33,4 %	< 0,005
Control	254,4	308,6	8,93 %	> 0,005

Table 2. *Matorin test - turn 360 º to the left*

Group	T1- Initial	T2- Final	Improvement	Value of P
Experimental	278,6	316,7	30,13 %	< 0,005
Control	263,3	274,3	6,09 %	> 0,005

Both groups show improvements of the initial parameters, as a result of the instruction process.

However, the improvements are greater at the experimental group, in contrast to the control group. The value of t, which is higher at the experimental group, also confirms a higher reliability of the value obtained by this group. This observation leads us to the same conclusion, namely, the personalized instruction is superior to the traditional, face to face instruction.

The graphical representations of the average values of the results in Matorin test are shown in figure no. 1 and figure no. 2.

Fig. 1 The average values of the Matorin test (right turn)

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Fig. 2 The average values of the Matorin test (left turn)

Conclusions

The superiority of the results obtained by the experimental group is justified also by the methodological measures that have been implemented in the instruction strategy. In the psychomotric training process, the actions have been primarily oriented towards the achievement of some behaviors that enable the basic components, which contributed to a more correct representation of the body movements and its segments.

Moreover, the prominence of the results obtained by the experimental group is also explained by the methodological input: applying the differentiating and awareness of the activity principles, along with the different approach of each individual, and the awareness of their deficits and their tasks.

Proposals

Implementing psychomotric techniques in the physical education classes in order to improve the physical and psychological aspects.

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TRAINING STRATEGIES REGARDING PHYSICAL EDUCATION IN PRE-SCHOOL EDUCATION

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Abstract

Background. The curriculum for preschool education gives the application of the elements of physical education in various contexts, clearly underlines the necessity of daily exercises and to realize the importance of doing them outside.
Regarding this paper, I set out to demonstrate the practical applicability of physical education in pre-school education, to present optimal solutions for achieving an educational approach from the perspective of solving ambiguities of teaching in different situations and physical education in pre-school education.
Objectives. Identification of the physical education elements that can be applied taking into account the specificity of the activities carried out.
Integration of the contents from the different fields with the physical education elements.
Establishing useful benchmarks for making the educational act more efficient.
Methods. Method of bibliographic study
The bibliographic documentation involved a permanent search for information sources as well as their selection, so that the methodical organization of studying phenomenon under the investigation would be complex, mobile and adapted to the investigated particularities.
The method of pedagogical observation - takes part of the particular research methods so, in the field of physical education, the main subject in observation is "the man in motion".
Results. The specific results of physical education are physical growth and development plus the positive results of the movement in the affective and cognitive fields. The movement is recognized as a prime factor in the intellectual formation of children.
Conclusion. Performing age-appropriate physical exercises regularly, the children develop a series of applied motor skills necessary in life, such as: walking, running, jumping, balance, climbing, forming a proper body hold in different positions.

Keywords: *Dynamic, interdisciplinary, moving games.*

Introduction

Teacher's role is to organize the activity in such a way as to offer the children a wide range of options which allow them to achieve what was established from the beginning. Thus, the curriculum for the preschool education, the anatomical – physiological features specific to the preschool age request the introduction of physical education elements during each of the activities performed with the children, regardless of the scientific domain.

During my activities at the kindergarten, I had the chance to observe three generations of children, both concerning their integration in collectivity and, more importantly, regarding their development, the modifications that take place at their body level.

A good teacher, as the leader of the educational process, must give free rein to his creative thinking and imagination, adopting innovative strategies in the sense of developing new ways of approaching teaching (instruction) or finding new ways organization and combination of training resources and methodologies, if not of experimentation with new methods and procedures. (Ionescu, M. (2000).

Among the most effective strategies used in physical education we mention heuristic strategies.

In modern didactics, the teaching-learning, teacher-educated relationship acquires new dimensions. On the one hand, the teacher (educator) strives to find new effective teaching strategies and to create optimal conditions

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for their appreciation. On the other hand, the educated (preschooler) is stimulated to actively participate in the teaching process.

The research was conducted out of the desire to optimize the instructional process, in the sense of knowing the efficiency and quality of physical education lessons, by applying a scientifically based system, in accordance with the spirit of curricular theory and the value of individualized work requirements.

The purpose of the research is to highlight the efficiency of teaching strategies on the participation of preschoolers in physical education lessons in Kindergarten no ... in Bucharest. This approach aimed to identify the effects obtained from the application of training programs and operational structures proposed in research.

When children are at preschool age, one hour of physical activity a day is the minimum necessary. This way, they develop the motor skills of the so-called high motility, but we shouldn't forget the importance of the motor qualities, especially the resistance.

Context

The physical education in kindergarten has different forms. The teacher can choose to organize motor activities in the first part of the day, as well as activities within smaller groups of children when they are doing their freely chosen activities, or they can introduce refreshing, disconnection, transition moments in activities from other domains, thus allowing children to move and make physical effort.

We started from the idea that differentiated training aims at adapting the activity, in terms of organizational forms and teaching methodology to their own possibilities, given that the ability to understand, interest in movement and the pace of work and learning is different.

Within the training strategies we will proceed to:

- approaching the frontal organization of training in alternation with the transition to group and individual organization. This transition from "general" to "particular" also determines the establishment of new relationships between teacher and child.
- intensive use of individual and mini-group formative-participatory methods, heuristics, etc., able to solve pedagogical and social valences. In this sense, the instructional strategies will include the methods: Learning by doing, Role-playing Case-Study.

The mandatory physical education activity takes place according to the educational plan, creating this way the necessary conditions for the accurate planning of the specific content.

According to the educational plan, it is mandatory to have one physical education activity per week, at all kindergarten age groups.

During the time children spend at kindergarten, it is important to organize other type of movement activities to strengthen the main muscle groups (arms, legs, back, abdomen), to ensure a correct posture, to stimulate and regulate the respiratory and circulation physiological functions. Done right, these moments contribute to the wellbeing, helps the teacher to manage the group of children and to teach them to exercise.

The mandatory activities are only a part of the time children spend at kindergarten, the rest of the time being spent with games and freely chosen activities. Child's general development, the socializing skills are all highly influenced by the type of occupations that are allowed during this time.

It is advisable to allow part of the games and freely chosen activities to include also physical exercises fun games, such as: dancing, applicative tours.

Each teacher in preschool education should teach children to love physical education and to understand that this is a mandatory instrument in efficient teaching activities.

The goal of interdisciplinary education is to ensure the knowledge unity and to surpass the boundaries of educational disciplines. It is unanimously accepted that, during our day-to-day life, we use the separated knowledge that we've accumulated when studying different disciplines and we don't exploit the assets specific to a certain study domain. The integrative approach of knowledge is not a novelty, the educators emphasizing, even in the Ancient Greece, the importance of knowledge as a whole. Our life is complex, unitary, thus we should

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study the events through the perspective of different, interconnected disciplines and, furthermore, from the perspective of exploiting the non-formal and informal education in the formal context.

An important premise of this study is represented by the integration of physical education elements in the daily schedule of the children, in various context during several activities, but in an integrated way that would improve the effort ability and would make the educational act more efficient.

Toddlers have less stable motor skills, but their motion need is essential as they cannot stay focused for a long period of time. By integrating short motion moments during each activity, you can make children understand easier the content.

Even if, at first, introducing physical education elements during other activities will lead to an apparent disorder, noise, if this is handled correctly, with patience and attention, they will enable the children to successfully reach their objectives and contribute to the efficient educational act – this aspect is very important, taking into account that the child is the center of the educational process and he is a person with specific particularities and needs.

The whole program is done through play, but not a random game, but an organized one, in which the child has the opportunity to explore different environments and perform accessible tasks. The role of the educator is to organize the activity in such a way as to offer the children a wide range of options that allow the realization of those proposed at the beginning.

Through a careful management, elements of physical education such as attractive gymnastics exercises, simple dynamic games of front formations can be included in the activities for starting the day's program in kindergarten.

The complex of exercises for morning gymnastics must be short and dynamic. It starts with walking and a short run, after which the group of children is placed in a simple formation (circle, column one by one, row) from which the physical exercises are performed.

Exercise should be aimed specifically at large muscle groups. We ended the gymnastics complexes with a calm walk, combined with arm movements, which would help to form a wider breath.

When building a new gymnastics complex, I gradually replaced the exercises. I replaced one exercise with another that trained the same muscle groups.

To make it more attractive and to diversify this moment, we performed some gymnastics complexes with the children, imitating the movements suggested by the verses of some poems that the children already knew.

For this sequence instead of gymnastics we have introduced some dynamic easy running games and especially grouping and regrouping games. The games did not have complicated rules.

In the preschool program the tansies are short and very concentrated moments; they have the role of active, funny and stimulating breaks, both for children and for educators, or as moments of relaxation, disconnection and mobilizing preparation for the next dynamic, rhythmic, recitative or musical approach, chosen according to the theme of the project.

Some themed dances performed during the transitions are: the dance of the rain with the shadows, the dance of the snowflakes, the dance of the snowdrop, the dance of friendship, the dance of the butterflies, the penguin learns carats.

The transitions, through a careful and efficient daily management by the teacher, with the insertion of the elements of physical education determine the maintenance of a healthy, harmonious, non-stressful climate in the classroom, the children's tone and the efficiency of the learning throughout the day.

In the daily activity program of the children, a wide category is represented by the ones chosen by the children, which take place individually or in small groups on centers of interest - on the one hand, recreational and fun activities.

The activity of physical education contributes to the maintenance and strengthening of health, the increase of physical and intellectual capacity, the harmonious physical and moral development of children, to the formation in their ranks of healthy work and life skills.

Health, harmonious physical development are important premises of the qualities, abilities and character traits of children. Favorable influence of health, increasing the body's capacity for effort by exercising vital

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functions and adapting to the environment, as well as the formation of individual and collective hygiene skills, are the fundamental reasons for society and the value of physical education. Physical education also has the task of contributing to the development and formation of those personality traits and components that also target the process of intellectual training and the general system of instruction and education.

Although it seems an exact field, the mathematical activity carried out in the form of a movement game is very interactive, the atmosphere being one of competition, fair play.

The contents of the environmental awareness activity were integrated with elements of physical education and some interesting games such as those presented below resulted.

AIR, WATER, SOIL

Game participants are placed in a circle. The leader of the game is in the center of the circle holding a ball. He starts the game by throwing the ball to one of the children in the circle, saying, at the same time, loudly: "air", or "water", or "ground". The one who receives the ball must - giving the ball back to the leader - name a being who lives in the environment named by the leader. If he does not answer quickly, answers incorrectly or repeats a name previously given by another child, he is removed from the game.

Language and communication - language education

After the story "The Rainbow" by Silvia Dima is told, they dance with colorful scarves in the colors of the rainbow, thus increasing the efficiency of the activity.

In an activity, a story was started with the children, starting with the theme “On a trip”, then an applicative route was organized that included walking in balance, climbing on an inclined plane, running. Thus, the objectives belonging to the two domains in a unitary framework were fulfilled, not being felt the transition from one stage to another.

The field of man and society - education for society

Common niches between the psychomotor field and the human and society field are those related to the aspects of hygiene, daily schedule, health protection, nature. Starting from these aspects, I developed with the experiment group a series of conversations intertwined with concrete-applied exercises.

In one of the activities there was a discussion about the importance of each trade and then a relay with the transport of weights was organized with the theme "brick bricks for the mason".

The field of man and society - practical activity

Different symbols were made with children and depending on them, application courses, movement games, themed dance costumes were arranged, so the effort made by the children was used concretely, the exhibition and analysis of the works being more efficient and interesting.

In one of the activities, flowering trees were made of different materials (cardboard, twigs, popcorn, glazed paper), then they were placed in the gym and the zig-zag run was repeated.

In another activity, traffic signs were made (traffic light, forbidden sign, right, left), and with their help an applicative route was arranged with the execution of different forms of walking, running, jumping, children being "cars".

Another activity had as stages the decoration of T-shirts with elements characteristic of the spring season, then the development of the thematic dance with the spring theme.

Aesthetic and creative field - music education

In addition to all the music education activities, in addition to the musical game, a eurythmy was performed on the lyrics of the songs learned or heard.

Aesthetic and creative field - artistic-plastic education

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During the artistic-plastic education activities, decorations were painted, modeled, drawn and at the end of the activities thematic dances were performed, movement games were organized, water lilies for the game "frogs jump in the lake", cheerful balloons for the game "touch the balloon"), using the children's works. Thus, the children were motivated to carry out the works as aesthetically as possible and an atmosphere of good mood was created by using them during the moments of movement.

Conclusions

Children in the middle-age group manage to coordinate better their movements and they have a stronger expression of their feelings. For them, dancing and motion games with symbols are developing, so the teacher can use all these as a means to successfully accomplish their educational activities.

By inserting the physical education elements in all the activities, the children perform during the time they spend at kindergarten, and not only during the mandatory physical activity time, the content of the other domains will be presented in an attractive, flexible way that will make the children want to investigate, document and apply what they have learnt. This way, they have a unitary day program, with structured and organized content that will fade away the boundaries between different activity categories.

Besides the physiological advantages of harmonious development, the children that benefit from a program that includes physical education elements during their time spent performing different type of activities, act naturally, show more liberty of action, are fast and active learners, are more responsible, are more self-confident and are more capable of accomplishing the activities that have been given or they have chosen, they are partners in the educational and are active participants of their own training, they develop skills such as creativity, communication, team work, they plan their own activities, developing this way their coordination, thinking and motivation.

It is necessary to introduce some physical education elements in the activities children perform during the time they spend at kindergarten, regardless of their age. They have to see these elements as an accomplishment of their effort, not as a burden or overload.

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INTUITIVE METHODS OF TEACHING MOBILITY ELEMENTS IN SKIING – SCHOOL SPORT CLUB

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Abstract

Background.. Ionescu, M (2000) classifies according to the requested analyzer and the static or dynamic character of the image the educational means as follows: visual technical means (epiprojector, epidiascope, back projector, etc.), audio technical means (radio, tape recorder, cassette player, player) for CDs, etc.), audio-visual technical means - which involves the use of a video camera, in connection with a TV monitor or video projector. Bocoş, M. (2010) calls them technical means of training.
Objectives. The use of modern intuitive methods can really contribute to the development of educational practice and to the solution of certain problems identified in the educational reality. By using modern intuitive methods of teaching acrobatic elements in gymnastics, included in the syllabus of the 7th grade, students achieve superior performances regarding the formation of specific skills and motor skills.
The research sample and stages, the methods. "Pavel Dan" Tritenii de Jos High School, Cluj County, rural environment; during the period: December 2018 - June 2019. The experimental sample: the 7th grade from with a staff of 21 students; control sample: 7th grade B with a staff of 20 students. The centralization of the notes in the tests of the experiment and of the averages calculated on each subject and on the samples, as well as their graphical representation, allow preliminary observations to be made, in support of the verification of the working hypothesis. In the case of the experimental group, all the students recorded an evolution of the performance, but much more significant, during the experiment. However, the same tendency of stagnation is observed in the last stage, with decreases in some subjects, as in the control group.
Results. "Independent Samples Test" presents the results of the t-test comparing the averages of the two samples. In the first part we read the results of the Levene test for checking the condition of variance equality (column "Levene's Test for Equality of Variances"), equality needed to validate the test t. The calculated value, F (37) = 0.172, at a safety threshold ("Sig.") P = 0.681 (higher than the admitted threshold p = 0.05), is insignificant, and the condition of variance homogeneity is fulfilled. Consequently, it can be stated, with a probability of 97.5% (1 - p = 1 - 0.025 = 0.975), that the difference between the sample meanings on the dependent variable (performance) is due to the influence of the dependent variable (using modern intuitive methods).
In addition to the statistical significance of the results of the t-test, materialized in the probability with which the research hypothesis is accepted, the effect size is of major importance. The calculation of this effect is performed using the indicator r, which, in the case of the t-test for independent samples and unequal groups, uses the formula: Value obtained (r = 0.32).
Conclusion. Following the application of the modern intuitive methods of teaching acrobatic gymnastics to the students of the 7th grade in the experimental group, they achieved a higher performance in the formation of specific motor skills, compared to those in the control group. 2. The constant use of modern intuitive methods has positively influenced the efficiency of the management of the didactic process. By using the audio-visual technical means, it can successfully replace the mediated or direct demonstration, and even have a better performance, in our case with 21.7%

Keywords: *intuitive methods, high school, acrobatic elements, education*

Introduction

Capitalizing on video technique in education, images and words, ideas and melodies harmoniously combine in a communication act in which the cognitive and affective channels are involved. Of the psycho-pedagogical valences of the video technique we mention the following aspects: it allows the current modification of the recordings by introducing new inserts or removing sequences; continue playback or pause, returns for

repeating sequences whenever needed; stores images and sounds for an indefinite period of time, M. Bocoș, M. Ionescu (2009).

Ionescu, M (2000) classifies the educational means according to the requested analyser and the static or dynamic character of the image, as follows: visual technical means (epiprojector, epidiascope, rear projector, etc.), audio technical means (radio, tape recorder, cassette player, player) for CDs, etc.), audio-visual technical means - "a special position is occupied by the video technique, which involves the use of a video tape recorder or a video camera, in connection with a TV monitor or video projector.

Bocoș, M. (2010) calls them *technical means of training*. This important category of media includes: the set of materials / media on which the information was stored - pick-up discs, tape recorders, audio cassettes, video tapes, disks, compact discs (CD-ROMs), DVDs, opto-magnetic discs; technical equipment - devices, apparatus, machines and installations; electronic equipment - cassettes, video cassettes, computers, multimedia projectors; all the pedagogical requirements for the efficient use of components 1-3 in the teaching-learning process. " M. Bocoș, M. Ionescu (2009). Theorists in the field of physical education and of the sport also speak about the use of iconographic materials as means used for the demonstration of the motor actions to be learned.

Șiclovan, I. (1979), speaking about the principle of intuition, recalls that the formation of movement skills cannot be broken by its sensory basis and has a special significance because children have a predilection for imitation, their thinking starts from concrete to abstract. Regarding the intuitive materials, he argues that their use "is especially necessary in cases of teaching new technical procedures or tactical actions but also in the stage of perfecting the movement skills [...]. In this sense it can be used to film the different executions of the athletes and then to watch the respective evolutions, as it contributes to the discovery of many details, which in the immediate action of the athletes cannot always be observed by the performer. Such intuitive materials help in the correct appreciation of the executions and in drawing some conclusions as objective, as stimulating for future activity. " Şicolvan, I. (1979).

Șiclovan, I (1979) recommended the presentation of films before the beginning of the lesson. Uțiu, I. (1993), describing the intuitive methods gives as a possible taxonomy of the demonstration: demonstration by teacher, coach, student or athlete; demonstration with the help of chinograms, planes or diagrams; demonstration with the help of films. He also states that watching the videos in slow motion is a modern form of physical education training, and that we can thus benefit as a model of the executions of the greatest sportsmen, to whom we can always refer.

Gh. Cârstea, Gh. (2000), makes a different classification; he divides the intuitive methods into the demonstration method (which in turn can be mediated or mediated) and the use of iconographic materials; observing the execution of other subjects. About the use of iconographic materials, he says that "it is generally recommended when the demonstration cannot be performed at the model level or it can be used as an additional way of strengthening the effects of the demonstration. It is realized, practically, by using the classic iconographic materials (plates, diagrams, graphs, etc.) or modern (slides, films, video tapes, etc.)" Cârstea, I. (2000)

Purpose of study

What do we do in the case when, for different reasons, the mentor of the instructional-educational process cannot execute the demonstration of an element in gymnastics, nor is there, among the students, someone experienced enough to perform the elements at a professional level? The answer, verified by the experiment of this present work, is that the demonstration through the use of audio-visual technical means, can successfully replace the mediated or direct demonstration, and even have a better performance, in our case with 21.7%. Thus, the use of modern intuitive methods can really contribute to the development of the educational practice and to the solution of certain problems identified in the educational reality. Turning from the stages of motor learning and from the definition of intuitive methods, we find as a common denominator the formation of a clear representation of the skill, or the formation of the mental image. This is achieved by demonstrations, mediated directly or through other intuitive methods and explanations. The clarity of the presentation of the skill that has to be learned gives this model a huge advantage.

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Research period and the subjects

"Pavel Dan" High School Tritenii de Jos, Cluj County, rural environment; during the period of December 2018 - June 2019. The experimental sample: a number of 21 students from 7th grade; control sample: 7th grade B with a staff of 20 students.

Research Hypothesis

By using modern intuitive methods of teaching acrobatic elements in gymnastics, included in the 7th grade syllabus, students achieve superior performances regarding the formation of specific motor skills.

By confirming the hypothesis of our study we can argue that in most cases the quality of the demonstration of an acrobatic element, whether it is mediated or direct, is inferior to that which can be played by presenting a video clip, with a subject performing the motor action at the level of motor "mastery".

Data recording

The centralization of data obtained in the tests of the experiment, and of the averages calculated on each subject and on the samples, as well as their graphical representation, allow preliminary observations to be made, in support of the verification of the working hypothesis. The results of the last stage are almost entirely smaller compared to those of the post-experimental stage, the decrease, however, not being significant, see table 1.

Table 1. *Results of the control group*

No.	Student initials	Grades/phases				
		Pre-test	***Test***	***Post-test***	***Retest***	***Average***
1.	B.A.C.	6,00	6,80	7,00	6,80	6,65
2.	B.L.C.	7,00	7,10	7,60	7,70	7,35
3.	B.A.G.	7,10	7,30	7,40	7,30	7,28
4.	B.D.	7,90	8,10	8,20	8,10	8,08
5.	B.R.	9,00	9,10	9,10	9,00	9,05
6.	B.D.	7,80	8,20	8,70	8,50	8,30
7.	C.S.C.	9,70	10	10	10	9,93
8.	D.L.Ş.	5,30	5,80	5,70	5,60	5,60
9.	F.A.	7,50	7,50	7,80	7,80	7,65
10.	G.M.	7,90	8,10	8,00	7,90	7,98
11.	L.N.	7,00	7,70	8,10	8,00	7,70
12.	M.R.R.	4,00	4,50	5,10	4,80	4,60
13.	P.R.D.	8,50	9,10	9,30	9,30	9,05
14.	S.D.	4,00	4,30	5,00	4,60	4,48
15.	S.A.R.	4,00	5,80	7,20	7,00	6,00
16.	S.D.C.	5,30	7,20	7,40	7,20	6,78
17.	S.D.	8,10	8,20	8,40	8,20	8,23
18.	T.A.	7,00	7,30	7,50	7,50	7,33
19.	G.E.	6,50	7,50	7,70	7,60	7,33

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No.	Student initials	Grades/phases				
		Pre-test	***Test***	***Post-test***	***Retest***	***Average***
Average		**6,82**	**7,35**	**7,64**	**7,52**	**7,33**

In the case of the experimental group, see table 2, all the students recorded an evolution of their performance, but much more significant, during the experiment. However, the same tendency of stagnation is observed in the last stage, with decreases in some subjects, as in the control group.

Table 2. *Results of the experiment group*

No.	Student initials	Grades/phases				***Average***
		Pre-test	***Test***	***Post-test***	***Retest***	
1.	B.M.G.	7,10	8,50	8,50	8,50	8,15
2.	B.D.	8,00	8,20	8,20	8,30	8,18
3.	B.M.	5,50	6,10	7,20	7,00	6,45
4.	C.S.	8,70	10	10	10	9,68
5.	C.A.L.	8,80	9,60	10	10	9,60
6.	F.L.	4,00	5,30	6,00	5,80	5,28
7.	I.C.	7,80	9,70	10	9,90	9,35
8.	M.I.G.	7,90	9,70	9,90	9,80	9,33
9.	M.M.I.	5,00	6,00	5,80	6,00	5,70
10.	N.P.	7,80	9,10	9,70	9,70	9,08
11.	R.S.	7,30	8,70	9,10	9,10	8,55
12.	R.A.P.	8,50	9,10	9,50	9,50	9,15
13.	S.D.	5,80	6,40	7,00	6,50	6,43
14.	T.R.	8,50	8,80	9,20	9,10	8,90
15.	T.D.D.	4,00	7,50	7,70	7,60	6,70
16.	U.A.	8,90	10,00	9,90	9,90	9,68
17.	U.D.	9,00	9,70	9,70	9,60	9,50
18.	V.D.O.	6,80	7,60	9,50	9,60	8,38
19.	V.M.C.	6,10	7,60	8,20	8,30	7,55
20.	Z.A.	8,50	9,70	10	9,90	9,53
Average		**7,20**	**8,37**	**8,76**	**8,71**	**8,26**

The distribution of the grades in the intervals 9-10, 8-9, 7-8, 6-7, 5-6 and below 5, highlighted in the graphical representations below, indicates a slight movement, from one stage to another, of the subjects.

Although both samples showed evolution of the results, the distribution of the mean intervals of the grades remains inhomogeneous, and the values for poor performance reaches 10%, in the case of the experimental group, and to 21% of the control group, see fig. 1 and fig. 2.

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Fig. 1 The values of the means of the control group

Fig. 2 The values of the means of the experimental group

Processing, analyzing and the interpretation of the statistical data

Collected and systematized as a result of the experiment, allow us, by reference to the working hypothesis, to outline two main directions of the conclusions:

1. Following the application of the modern intuitive methods of teaching acrobatic gymnastics to the students of the 7th grade in the experimental group, they obtained higher performance in acquiring specific motor skills, compared to those in the control group. This is largely due to the quality of the teaching model, but it should be specified that the use of modern audio-visual technical means allowed the students of the experimental group, to observe the videos in *slow motion*, allowing students to see all the details of the execution of the acrobatic element, and thus form a clear image of the skill and what needs to be learned. At the direct execution of certain acrobatic elements it is quite difficult to give students the explanation at the same time, but the use of audio-video technical means allows this, and even more, it allows the easy replay of the motor action, being this makes possible to focus attention on different aspects (movement of the arms, movement of the legs, position of the segments at certain times, etc.).

Another advantage the experimental group had over the control group was the use of audio-visual technical means for correcting errors by recording and analyzing their own executions. Specifically, when necessary, we filmed the execution of the of movements of students that made mistakes in their performance, and we replayed this on video projection, so the subjects became much more aware of their own mistakes, they were able to understand them better than explaining with words.

We consider that an extension of the didactic research would be useful, not only for the use of the modern intuitive methods in acquiring the skills in acrobatic jumps in apparatus, but also in learning specific skills of other sports disciplines such as those specific to athletics or sports games, provided that the activity takes place in the gym. The data obtained as a result of the statistical observation process during the four stages of the experiment allow a characterization of the evolution of the studied groups and the organization of the information, in order to verify the research hypothesis. The main activity of the systematization is the presentation of the data in the form of statistical series (tables).

The systematization of the results (mainly of the means) obtained by the subjects in the verification tests related to the four stages of the experiment is performed in the structure of the following table (table 3):

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Table 3. *Systematic statistical data for hypothesis verification*

No.	Student initials	Independent variable - *Context*	Dependent variable - *Performance*
1.	B.A.C.	Intuitive classical methods	6,65
2.	B.L.C.	Intuitive classical methods	7,35
3.	B.A.G.	Intuitive classical methods	7,28
4.	B.D.	Intuitive classical methods	8,08
5.	B.R.	Intuitive classical methods	9,05
6.	B.D.	Intuitive classical methods	8,30
7.	C.S.C.	Intuitive classical methods	9,93
8.	D.L.Ş.	Intuitive classical methods	5,60
9.	F.A.	Intuitive classical methods	7,65
10.	G.M.	Intuitive classical methods	7,98
11.	L.N.	Intuitive classical methods	7,70
12.	M.R.R.	Intuitive classical methods	4,60
13.	P.R.D.	Intuitive classical methods	9,05
14.	S.D.	Intuitive classical methods	4,48
15.	S.A.R.	Intuitive classical methods	6,00
16.	S.D.C.	Intuitive classical methods	6,78
17.	S.D.	Intuitive classical methods	8,23
18.	T.A.	Intuitive classical methods	7,33
19.	G.E.	Intuitive classical methods	7,33
20.	B.M.G.	Intuitive classical methods	8,15
21.	B.D.	Intuitive classical methods	8,18
22.	B.M.	Intuitive classical methods	6,45
23.	C.S.	Intuitive classical methods	9,68
24.	C.A.L.	Intuitive classical methods	9,60
25.	F.L.	Intuitive classical methods	5,28
26.	I.C.	Intuitive classical methods	9,35
27.	M.I.G.	Intuitive classical methods	9,33
28.	M.M.I.	Intuitive classical methods	5,70
29.	N.P.	Intuitive classical methods	9,08
30.	R.S.	Intuitive classical methods	8,55
31.	R.A.P.	Intuitive classical methods	9,15
32.	S.D.	Intuitive classical methods	6,43
33.	T.R.	Intuitive classical methods	8,90
34.	T.D.D.	Intuitive classical methods	6,70
35.	U.A.	Intuitive classical methods	9,68
36.	U.D.	Intuitive classical methods	9,50
37.	V.D.O.	Intuitive classical methods	8,38
38.	V.M.C.	Intuitive classical methods	7,55
39.	Z.A.	Intuitive classical methods	9,53

The comparison of the average performance (V.D.) of the two groups, as an expression of the average of the results obtained by subjects in the modern-classical contexts (V.I.), represents the first step in the procedure

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of verifying the working hypothesis. The general and significant systematization from the point of view of the evolution of the dependent variable during the experiment is highlighted by the following graph, fig. 3:

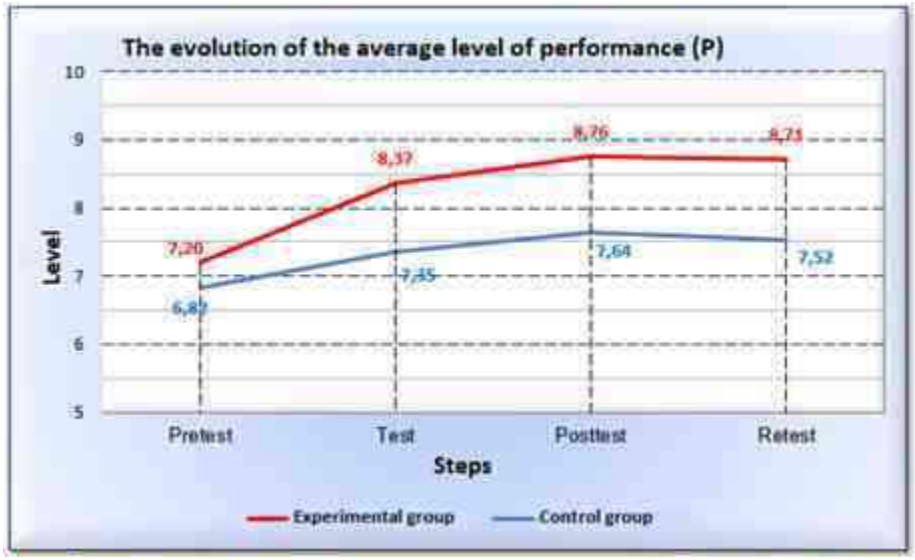

Fig. 3 Graph of the evolution of the average level of performance

The graph shows a significant increase, of 21.7%, of the average performance of the experimental group, during the intervention (applying modern intuitive methods), compared to the 12% increase of the control group, which carried out its didactic activity under ordinary conditions, with classic intuitive methods.

Also, the graph confirms the difference between the levels of the dependent variable, recorded by the two groups in the Post-test stage and in the Retest stage, this being meant to further confirm the research hypothesis, should it be verified.

The procedure for verifying the research hypothesis must demonstrate that the superior value of the performance of the experimental group, as compared to that of the control group, is due to the intuitive methods used and not happened by accident. Statistical data regarding the variation of the dependent variable were calculated (V.D.), the performance systematized and subjected to the automatic processing procedure using the SPSS statistical analysis computer application. As previously determined, the t test will be used for two independent samples to verify the hypothesis. By the t test, the null hypothesis is provisionally admitted, it is assumed that the difference between the two means of the samples is due to chance and that there are no real differences between the samples.

The first table generated by the computer application is "Group Statistics", which presents for each of the two samples, associated with the independent variable (classical and modern methods), the number of subjects (column "N"), the average (column "Mean"), standard deviation (deviation) column ("Std. Deviation" column) and standard error of the mean ("Std. Error Mean" column). It is observed that the average of the experimental sample is higher than the control sample (8.2585 > 7.3353), table 4.

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Table 4. *„Statistics Group"*

Group Statistics

	Metode	N	Mean	Std. Deviation	Std. Error Mean
Performanta	Moderne	20	8,2585	1,41978	,31747
	Clasice	19	7,3353	1,42899	,32783

The second table, "Independent Samples Test", presents the results of the t-test for comparing the averages of the two samples. In the first part we read the results of the Levene test for verifying the condition of variance equality (the column "Levene's Test for Equality of Variances"), equality needed to validate the t test.

The calculated value, F (37) = 0.172, at a safety threshold ("Sig.") P = 0.681 (higher than the allowed threshold p = 0.05), is insignificant, and the condition of variance homogeneity is met. The number 37 in the column "df" represents the degrees of freedom, variable noted with n, and is calculated according to the formula:

n = N1 + N2 - 2, where N1 and N2 are the number of subjects in the two samples, see Table 5.

Table 5. *„Independent Samples Test"*

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Performanta	Equal variances assumed	,172	,681	2,023	37	,050	,92324	,45629	-,00129	1,84775
	Equal variances not assumed			2,023	36,871	,050	,92324	,45636	-,00154	1,84802

Assuming the homogeneity of variances, the results of the first t test, "Equal variances assumed", will be used in the table. The calculated value of t (37) = 2.023, at a significance threshold [column "Sig. (2-tailed) "] p = 0.05 (equal to the 0.05 threshold proposed in the hypothesis), indicates that there are significant differences between the means, the subjects of the experimental sample registering a higher level of performance in comparison with those in the control group. The calculation formula of t is represented by the report:

$$t = \frac{\left|\overline{m_1} - \overline{m_2}\right|}{\sqrt{\sigma^2\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}} \quad (1)$$

Where: m1 and m2 are the mean of the groups, and σ2 - the variance of the collectivity (of the assembled groups), calculated as follows:

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$$\overline{\sigma^2} = \frac{\sum\left(x-\overline{m_1}\right)^2 + \sum\left(x-\overline{m_2}\right)^2}{N_1+N_2-2} \quad (2)$$

Where x takes the values of the subjects' individual environments.

Once the value of t = 2.023 is calculated, it is determined the probability that the differences between the averages are due only to the random factors, respectively the probability of verifying the null hypothesis. For this the Student table is used (table t), see table 6.

Table 6. *Student table (extract)*

v	0.10	0.05	0.025	0.01	0.005	0.001
1.	3.078	6.314	12.706	31.821	63.657	318.313
2.	1.886	2.920	4.303	6.965	9.925	22.327
3.	1.638	2.353	3.182	4.541	5.841	10.215
4.	1.533	2.132	2.776	3.747	4.604	7.173
5.	1.476	2.015	2.571	3.365	4.032	5.893
6.	1.440	1.943	2.447	3.143	3.707	5.208
7.	1.415	1.895	2.365	2.998	3.499	4.782
8.	1.397	1.860	2.306	2.896	3.355	4.499
9.	1.383	1.833	2.262	2.821	3.250	4.296
10.	1.372	1.812	2.228	2.764	3.169	4.143
11.	1.363	1.796	2.201	2.718	3.106	4.024
12.	1.356	1.782	2.179	2.681	3.055	3.929
13.	1.350	1.771	2.160	2.650	3.012	3.852
14.	1.345	1.761	2.145	2.624	2.977	3.787
15.	1.341	1.753	2.131	2.602	2.947	3.733
16.	1.337	1.746	2.120	2.583	2.921	3.686
17.	1.333	1.740	2.110	2.567	2.898	3.646
18.	1.330	1.734	2.101	2.552	2.878	3.610
19.	1.328	1.729	2.093	2.539	2.861	3.579
20.	1.325	1.725	2.086	2.528	2.845	3.552
21.	1.323	1.721	2.080	2.518	2.831	3.527
22.	1.321	1.717	2.074	2.508	2.819	3.505
23.	1.319	1.714	2.069	2.500	2.807	3.485
24.	1.318	1.711	2.064	2.492	2.797	3.467
25.	1.316	1.708	2.060	2.485	2.787	3.450
26.	1.315	1.706	2.056	2.479	2.779	3.435
27.	1.314	1.703	2.052	2.473	2.771	3.421
28.	1.313	1.701	2.048	2.467	2.763	3.408
29.	1.311	1.699	2.045	2.462	2.756	3.396
30.	1.310	1.697	2.042	2.457	2.750	3.385
31.	1.309	1.696	2.040	2.453	2.744	3.375
32.	1.309	1.694	2.037	2.449	2.738	3.365
33.	1.308	1.692	2.035	2.445	2.733	3.356
34.	1.307	1.691	2.032	2.441	2.728	3.348
35.	1.306	1.690	2.030	2.438	2.724	3.340
36.	1.306	1.688	2.028	2.434	2.719	3.333
37.	1.305	1.687	2.026	2.431	2.715	3.326
38.	1.304	1.686	2.024	2.429	2.712	3.319
39.	1.304	1.685	2.023	2.426	2.708	3.313
40.	1.303	1.684	2.021	2.423	2.704	3.307
41.	1.303	1.683	2.020	2.421	2.701	3.301
42.	1.302	1.682	2.018	2.418	2.698	3.296
43.	1.302	1.681	2.017	2.416	2.695	3.291
44.	1.301	1.680	2.015	2.414	2.692	3.286
45.	1.301	1.679	2.014	2.412	2.690	3.281

On the line corresponding to the degree of freedom df = 37, the value of t corresponding to the significance threshold p = 0.05 is identified, for which the null hypothesis is rejected and the working hypothesis is accepted. If the calculated value, 2.023, is greater than the one in the table, 1.687, the research hypothesis is verified and accepted. Moreover, the above table shows that the exact probability (if we can say so) for the calculated level of t is 0.025.

Consequently, we can state with a probability of 97.5% (1 - p = 1 - 0.025 = 0.975), that the difference between the sample meanings on the dependent variable (performance) is due to the influence of the dependent variable (using modern intuitive methods).

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In addition to the statistical significance of the results of the t test, shown in the probability with which the research hypothesis is accepted, the determination of the effect size V.I. is of major importance on V.D. The calculation of this effect is performed using the indicator r, which, in the case of the t test for independent samples and unequal groups, with the following formula: The obtained value (r = 0,32) refers to certain reference values, established by the statistician Jacob Cohen in 1988, quoted by Antonesei, L. (2009).

Following this report, it can be stated that applying modern intuitive teaching methods to the experimental sample has a medium effect on increasing the level of motor skills specific to acrobatic gymnastics.

$$r = \frac{t(N_1 + N_2)}{\sqrt{t^2(N_1 + N_2)^2 + 4t(N_1N_2)}}$$

Values of *r* :	**Effect category:**
0.10	- weak
0.30	- medium
0.50	- strong
≥0.70	- very strong

Conclusions and proposals

The analysis of the results of the experiment led to the verification of the research hypothesis, showing that through the proper use -in the hours of physical education and sports in the 7th grade-, of the modern intuitive methods of teaching acrobatic gymnastics, the students registered an increase with 21.7% of the level of specific motor skills, the application of these methods having an average influence on the obtained performance. Going back from the stages of motor learning and from the definition of intuitive methods, we find as a common denominator: *forming a clear representation on learning*, or *forming the mental image*, Cârstea Gh. (2000).

This is formed by demonstrations, mediated or directly, or through other intuitive methods and explanations. The clarity of the representation on the skills to be learned gives a great advantage this model. If we look at it from this perspective, it is of course understood, but also demonstrated by confirming the hypothesis of this study, that in most cases the quality of the demonstration, whether it is mediated or direct, is inferior to that which can be played by presenting a video clip with a subject performing the action at the level of motor "mastery".

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SPORT SECTION

THE FUNDAMENTAL MECHANISMS AT THE LEVEL OF THE BODY MUSCLES NECESSARY IN SUSTAINING AND AMPLIFYING THE EFFORT IN MODERN TENNIS

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Abstract

Modern tennis practiced at the high-performance level implies an extremely complex, dynamic, high intensity physical activity in extremely short time units – from 3 to 18-24 seconds – for physical and mental recovery.

The specific positions of the player in the field, the forms of movement, the distances, the difficulty of their achievement, to which are added the preparation processes and the techniques of hitting the tennis ball, give the measure of higher physical and mental demands.

The present scientific work has an essay character based on an extensive study and observations, personal experience, specialized publications, all meaning a proof of the scientific knowledge of the field. It deals extensively with the fundamental mechanisms of muscular-ligamentous effort, on the three areas of the body: upper limbs, lower limbs and upper body.

The rotations of the upper body are very rarely performed on the vertical axis of the body, generally they are most often done outside or as a fixed point on one side of the body (for example, on the right-hand players, the movement for forehand is made on the imaginary area of the left shoulder.

The scapular belt, which connects the upper body to the upper limbs, contains many groups of muscles that play an important role in the dynamics of tennis hits, contributing substantially to the complexity and amplitude of the arm, decisive in the technique of tennis.

The muscles of the lower limbs make a solid connection with the upper body and are present in the movement and control of the center of gravity of the body.

Those three fundamental mechanisms at the level of the muscles are strengthened both on the ventral and dorsal sides of the body, constituting a muscular braid that ensures the complexity of the specific tennis movements: defeat, release, impulse, extension and flexion.

The graphic illustrations of the technics to which the tennis player is the subject, belong to us. This over 28 technical moments presented offers the chance to rethink the problem of training the tennis player, from a physical, technical and tactical point of view, at a higher level.

Keywords: *Technical mechanisms, groups of tennis ball hits, muscle groups, structural and functional changes, force-velocity vectors.*

Introduction

The idea of presenting and defining the "special techniques" of hitting the ball in extreme situations of the adversity of the game tactics, was made in order to identify, select and illustrate their graphics, which incorporates muscular mechanisms of the body at the upper level.

The hypothesis of this paper starts from the specifics and content of the game at a high-performance level, developed on fast and quite hard game surfaces, to which is added the increase of adversity in game tactics, through large openings of angles of attack, doubled by speed, ball circulation. In this context, the coach-tennis couple is urgently required to strengthen and maintain at a higher level of training the body segments that support hitting the ball, in order to avoid unwanted injuries.

The frequency and the area of placement of the ball on the entire geometry of the playing space, makes the opponent's reaction time limited for an effective counter-offensive, he resorting to difficult techniques.

According to D.D. Donskoi (1959), the general purpose of biomechanics is to study the laws and conditions in which driving forces cause a useful working effect in the body. Knowing the laws of motion one can predict their outcome under different conditions, one can thus emphasize what is the cause of mistakes made in different movements, one can correctly assess the effectiveness of movements, one can find ways and means to improve them and ultimately, they can create movements that correspond to the highest degree to specific motor requirements.

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The mechanisms of muscular effort in tennis

In the current game of tennis, each technical game procedure, either hitting the ball from the side or from above, involves in the course of the game a series of structural changes, larger or smaller, as well as the participation percentages of the fundamental mechanisms of the groups muscle on the component moments of each technical procedure.

The composition of the ground surfaces, the quality of the ball, the force of hitting the opponent, the weather conditions, the physical and mental fatigue, can influence some moments of the technique as well as the participation percentages of the body muscles.

The always different areas of return of the ball, the motor qualities involved, the position of the body, respectively the general center of gravity of the body, hitting the ball on the spot or on the move, taking the risk, lead to high-risk techniques.

All the specific movements in tennis are combined and diversified, from one phase to another, resulting in the localization of physical effort in a winning vector.

The paper deals extensively with the mechanisms of muscular effort, on the three areas of the body:

a) the fundamental mechanisms at the level of the trunk,

b) the fundamental mechanisms at the level of the upper limbs,

c) the fundamental mechanisms at the level of the lower limbs.

At the level of the three fundamental mechanisms, the muscles work both on the ventral and on the dorsal side of the body, constituting muscular braids that ensure the complexity of the movements required by the specificity of the game's technicality.

The range of body movements in the game actions is very varied: impulse movements, yielding, flexion, extension, bending, bending, etc. and all these movements provide plans to hit the ball with the racket throughout the playing space

The content of the paper is richly illustrated with images, which compose moments and plans of impact in extreme situations, which results in the charm and beauty of the game of tennis.

The suggestive graphics that present extreme situations of hitting the ball in tennis represent our contribution.

Tennis is one of the sports that involves an extremely complex, dynamic and high-intensity physical activity in short units of time, from 3 seconds to 18-30 seconds, followed by breaks of 20 seconds between game points and 90 seconds, seconds between odd games (after every 2 balls).

The tennis player must move very quickly on the field of play to be at the right time to hit the ball.

The various positions and forms of movement, the distances and the difficulty of achieving the point in the game, in conditions of increased adversity of the game, give the measure of the physical and mental demands to which the tennis player is subjected.

a) Mechanisms at the level of the trunk muscle

In tennis, the spine and torso play a key role in supporting the playing technique. We have also stated in our other publications (Moise G.D, (2002) - *Theory of Modern Tennis*) that the trunk itself retains the fundamental role in current tennis technique, which is required for efforts of: compression, traction, twisting, lateral tilt and of course flexion and extension, as essential attributes in supporting modern game techniques.

The location of the movements at the level of the trunk (located at the spine), is different depending on the regions of the spine, which are conditioned by the planes of the surfaces of the intervertebral joints and the spinous processes, etc.

The trunk muscles are formed by groups and kinematic chains that ensure the posture and the complex functions of the trunk, in the demands of the game technique.

The arrangement of the muscle groups, which in turn form the kinematic chains, which intersect both the ventral face and the dorsal face of the body, constituting large muscle braids or muscular arches that ensure the planes of movement at the trunk: for flexion, extension, twisting left and right and lateral inclinations.

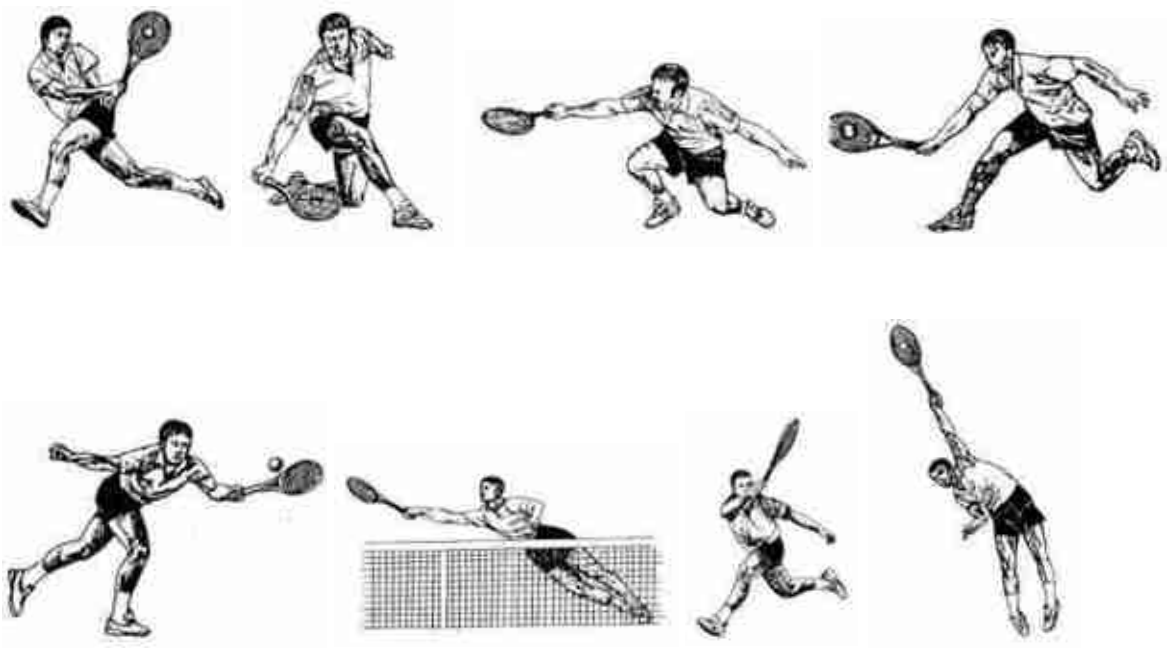

Fig. 1 Positions, forms of movement in the field and diversified plans for hitting the ball (Moise, G.D., (2011). *Physical training, the modernization factor of performance tennis)*

These data are particularly suggestive for the fundamental role of the torso in the technique of modern tennis, giving us the scientific opportunity to reflect and act in the process of physical training to avoid trauma, providing conclusive data that lead to strengthening, mainly muscles. trunk, being considered by us the "pivot of body movements" that ensures the motor and safety of hitting the ball in tennis.

As a specific characteristic of the movements at the level of the trunk consists in the combination of the dynamic actions with the static ones or even with the yielding movements. All these components of the movements at the level of the trunk are mainly due to the technicality of the tension, which manages to interrupt the muscular tensions at the level of the trunk, which are automatically transmitted to the upper segments, but which must transform the braking forces into driving forces, important in the dynamic structure of specific movements.

b) Mechanisms at the level of the muscles of the upper limbs

The scapular girder joins the upper limbs with the torso, has many muscle groups, creates a support for the upper limbs, has a large number of movements and degrees of freedom, and has an increased range of motion in its joints.

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The role and functions of these groups of muscles and kinematic chains around the scapular belt, represent, for the dynamics of tennis blows, together with the trunk muscles, everything that means handling the racket in different planes and of course the most important aspect is its impact on the ball.

The sliding of the shoulder blade on the thoracic cage ensures the dynamics of movements at the level of the scapular belt, and the degrees of freedom at the level of the shoulder, ensure the infinite possibilities of movement of the upper limbs.

The muscles of the shoulder joint, such as the deltoid, pectoralis major, large round and dorsal spine, attach to the humerus bone, contributing substantially to the complexity and amplitude of the arm, which plays a crucial role in the technique of tennis.

The movements specific to the tennis game technique are made in proportion of 100% with the help of the movements at the elbow joint, which have the role of increasing the speed of hitting the ball, the "whipping" performed on the forearm with the game racket, and the fineness, direction and the force of hitting the ball, is realized at the level of the forearm and respectively in the elbow joint, imperiously at the level of the hand which is the fundamental mechanism of directing the technical actions of the game.

The general and selective processing of the muscles of the upper limbs is a necessity of great importance in the practice of modern tennis, from children to great performance. The specialized means, the exercise regime for the physical training, cumulated with the technical ones, can give the measure of the importance and the necessity of the physical training at the level of the upper limbs, where the effort of hitting the ball reached the high-performance values, balls starting from 90-140 km / h when hitting the ball from the side and at work with 130-240 km / h.

Dynamic and static forces combine and diversify permanently, from one group of muscles to another, due to the fact that in ball-free play, the effort is generally made by the muscles of the lower train, and the upper limbs perform a series of preparatory movements for a new blow, respectively another technical procedure.

Upper limbs play a special in the infinite possibilities of movement and increased efficiency when hitting the ball, an aspect that refers to the mutual arrangement of the axes of the bones and the axes of the joints. As a result of the structures of the bones of the upper limbs, the movements of the arm and forearm can occur in different planes, which are also under the influence of other muscles. When the upper limbs are required to hit the ball from the side and from the top, there are easy conditions for complex ball action movements. At the level of the upper limbs there are four more basic movements such as: abduction and adduction, as well as those of pronation and supination. In these cases, the muscles interested in hitting the ball are found in the deltoid, pectoral and trapezius.

The muscular effort in the case of technical procedures for hitting the ball with the tennis racket is very high, because in an official game of 5 sets, the tennis player performs over 2,000 actions on the ball, which requires a very good knowledge of the structure of motor acts and of the means of local strengthening of the muscles.

c) Mechanisms at the level of the lower limb muscles

Data from the literature describe the following joints in the lower limbs: 3 hip joints, 2 knee joints and 2 ankle joints. The amplitude of movements in the lower limbs is lower than in the upper limbs, which limits the movements in this segment.

The movements at the knee joint are reduced to flexion and extension and to those of deportation and supination, performed in the position with the knee flexed.

The knee joint is strengthened by the lateral and crossed ligaments, and the special movements of the meniscus ensure the ease of movements in this segment.

In the game of tennis, the knee joint plays a fundamental role in specific motor skills (always different positions, starting, launching and stopping shapes), to which is added the complexity of the requirements for specific technicality.

At the level of the foot there are very strong and sudden movements and demands, which in turn are ensured by the large number of joints, ligaments and muscles with a very diverse functionality, where the main flexion and extension movements ensure the body's momentum and stability, the numerous actions of the game technique.

Among the basic functions of the lower limbs, the following stand out according to the data of anatomy science: support organ, impulse, damping and which in turn in the technique of tennis play takes place in complex forms of positions and movements on the playing field.

The movements that take place at the level of the joints of the lower limbs are based on the pushing function, which is performed starting with the extension of the coxo-femoral joint, the knee and the flexion at the ankle joint. This particularly complex mechanism, present in all the actions of playing tennis, must be very well known and developed at the highest level.

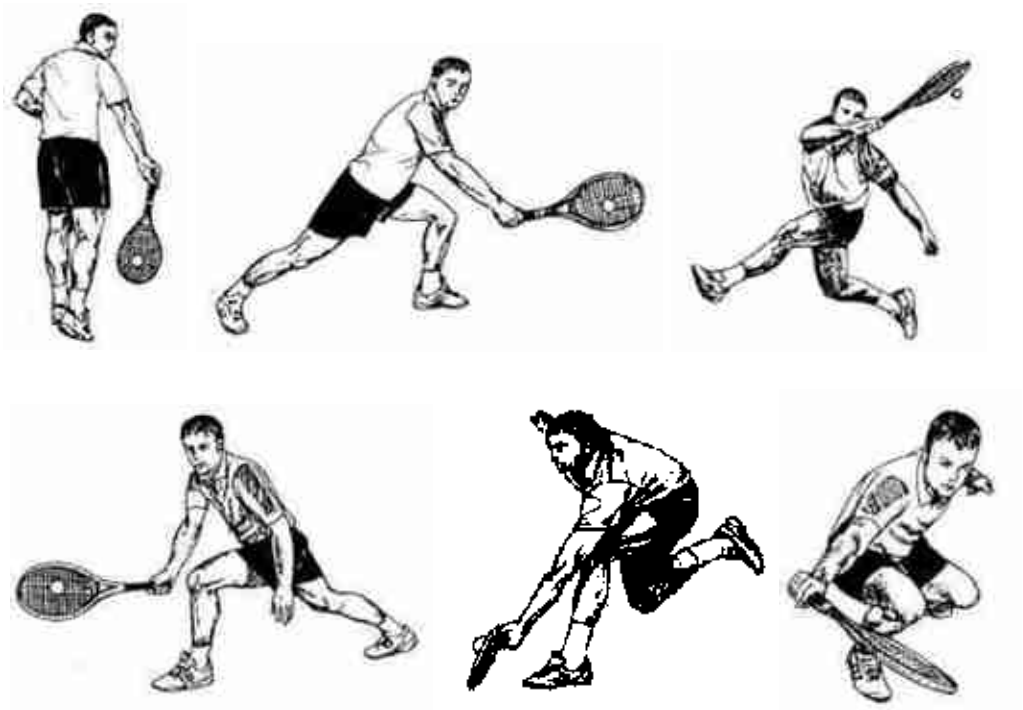

Fig. 2 Superior technique involves permanent control of the balance of the body, the general center of gravity of the body, as well as the correct handling of the tennis racket (Moise, G.D., (2011). *Physical training the modernization factor of performance tennis)*

The motor mechanisms at the level of the lower limbs are detached by a great complexity, in the sense of the specific demands of the game technique, of the long effort to which the tennis player is subjected in official training and games, on an official game, of about 4-8 km. active actions on the ball in the playing space, on a variety of acyclic displacements sprinkled with sudden efforts, starts and braking followed by breaks lasting 20 sec or 90 sec.

The alternation of muscle tension and relaxation in rhythmic work with a specific character is an integral part of the stability and longevity of muscle work, to which are added the conditions of blood circulation and pulmonary ventilation.

Knowingly alternating the static effort with the dynamic one, at the same segment (or alternating segments,) is a fundamental methodical rule for increasing general and mental motor skills.

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Achieving notable performance in the game of tennis at the highest level depends on the correct knowledge and use of a series of decision factors that multiply and amplify the performance in tennis, among which we mention:

- the degree of improvement and efficiency of all technical procedures and related variants;
- the level of functional and psycho-motor abilities of the athlete;
- higher degree of athletic training;
- the degree of improvement of the internal factors (special physiological states) and of the external ones - the volume and complexity of the training and game effort;
- the superior quality of applying the permanently offensive tactic;
- adaptability to highly diversified official training and game conditions;
- combining automatically and efficiently between dynamic, static and yielding efforts, with maintaining and amplifying the dynamic stereotype always to be perfected, etc.

Knowing the directions of action of the body segments and the basic muscles that ensure specific movements, is in our opinion a first step in the correct development of general and specific motor qualities to ensure a motor background where to develop in addition to a series of specific automatisms. and combined motor skills, with very well-defined effort regimes. In this way, technicians have multiple possibilities to easily notice the weak and very good parts regarding the development of specific motor qualities and to avoid in the process of physical training errors regarding the use of non-specialized exercises, without purpose, and ultimately to measure on specified stages, the effects of physical training on the basic segments of the body.

The muscles of the upper limbs are capable and provide humans with the most precise and complex movements that have been perfected in the process of life.

The movements of hitting the ball include a complex of movements, which in turn require joints, muscle groups, tendons and ligaments.

Conclusions

In the dynamics of the tennis game technique, in conditions of increased adversity they can lead to very varied and changing technical procedures (technical nuances), because they are conditioned by the variable factors of the game.

The problem of identifying and graphically illustrating the technical variants of the game was a challenge professionally and decisively.

As a result of the multitude of technical procedures subjected to extreme muscular demands, there is a need for the entire range of offensive and counter-offensive technical-tactical actions to be the subject of specialized training.

An element of methodical topicality in the context of the musculoskeletal and articular efforts that take place in the tennis player's body refers to the need to control the forms of tension and relaxation of the muscles, respectively the "game of muscle antagonisms",

Ignorance, neglect or superficial treatment of special techniques can lead to counter-performance, cracking;

Superior athletic training and a modern playing technique can be successful performance variants.

The correlation of the structures of the game technique, the exceptional physical training focused on muscle groups and chains is the keystone of success and performance in today's tennis.

The timely identification of the technical and psycho-motor mechanisms of performance in tennis is the scientific imperative of the technical activity in tennis.

The specifics and content of the game of tennis, as well as the training carried out by players on increasingly fast and quite hard playing surfaces, have led to increased demand for segments, joints, ligaments and body muscles, which has led to the need for special attention. from technicians and tennis players to prevent

unwanted accidents and to strengthen and maintain at a higher level the preparation of segments and muscles of prime importance for moving on the field (lower limbs) and hitting the ball (upper limbs).

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METHOD OF MODELING IN PERFORMANCE TENNIS, THE MODERN SOURCE OF PERFECTING THE TRAINING CONCEPT

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Abstract

Performance tennis has made important progress in recent decade, both male and female, being illustrated by superior effort capabilities, dynamism in the technical-tactical actions of the game, power of concentration, quick recovery, adaptation to the diversified conditions of the game (time zone, weather conditions, opponents of different typologies).

The laborious work of the coaches and the athletes are highlighted by somatic and functional measurements, investigations and scientific decisions of the teams of specialists.

Sports performance in tennis knows in time a continuous process of modernization due to the valuable interventions of the related sciences, which leads to a permanent redefinition of the principle of modeling and remodeling, on all the components that contribute to raising the human limits.

The integrative (game and training) model includes the following components: the player's model or typology, the game parameters, the basic component model of the game.

Modeling involves the reactivation of the specialized knowledge regarding the elaboration of valuable and performing training programs with maximum efficiency, without forcing the sportsman's body, modeling that must take into account the type of player (offensive, defensive, combinative) and a certain one technical, tactical and psychomotor strategy.

Also, the modeling implies a good hierarchy of the criteria for evaluating the progress in preparation and in the game, conditioning and harmonization between the components of the training and the elements of effort and recovery, hygiene and nutrition, adaptation and medication, motivation.

We can state that once the game and training model is fixed, this activity can only be a stage, after which it will have to be improved by adding new modeling elements or by eliminating some that no longer correspond to the biological stages of the tennis players or require a series of adjustments that accelerate the improvement, according to the major requirements of higher level.

Keywords: *modern tennis, methodology, technology, concept, model and modeling*.

Introduction

As is well known, performance tennis has made significant progress in both men's and women's training in terms of training methodology, content and competitive game skills.

The number of tournaments has increased, to 60 annually, the density and value of each tournament being very high.

The official tournaments and games take place in various conditions of adversity, the playing surfaces are faster and harder, time zone differences, weather conditions, more and more vocal types of spectators, the increased stake of the games, all these require tennis players to effort considerable, both physically and mentally.

All these features of the current game of tennis ensure a show of vigor, but also requires a high level of physical, mental and scientific training in all parameters of sports training.

The whole set of specific conditions of the current game of tennis firmly demonstrates the quantity and quality of work shared by tennis players - coaches and teams of specialists (psychologist, nutritionist, physical training, masseur, etc.) to achieve the level of performance required of a champion.

Sports performance in tennis, over time has continuous progress, modernization and improvement, due on the one hand to the contribution of related sciences that constantly contribute to the consecration of the principle (method) of modeling on all components of training, to increase sports performance at human limits.

The topicality of this issue is clearly detached from the very knowingly specifying the major objectives of sports training in tennis, aiming at the method of modeling in order to organize, conduct and methodical decisions on the quantity and quality of effort made by the tennis player.

Modeling in performance tennis

Game modeling and training in performance tennis, is in our opinion a notion of great complexity, with a vast and dynamic content.

A possible definition of the concept of modeling in performance tennis, means the sum of knowledge, and skills and their scientific interpretation, respectively the technical-tactical, physical and mental component in order to increase the competitive efficiency.

Modeling in the official training and game procedure is influenced by the means and methods selected and applied.

Tennis modeling can include:

a) offensive approach to the game technique and tactics;

b) the components of the game have a constant dynamics and precision throughout the game;

c) speed and force of hitting the ball to exceed the limits of adversity;

d) ball-free play, an adjunct to increase the efficiency of tactical game actions;

e) superior techniques of confusion, imbalance and change of game rhythm;

f) increasing the percentage of efficiency of the actions in the fixed game phase (service and return to work);

g) mentality, increased attention and rapid recovery during the game;

h) separate and correlated approach to the parameters of physical and mental effort in the dynamics of the game;

i) decided decisions of the game to the detriment of pointless (unnecessary) risk-taking errors.

The elaboration of the game and training model also presupposes a real solution of the methods and means of specialized training, adapted to the biological, motor and technical-tactical characteristics of the athletes.

The increasing penetration of science in the methodology of performance tennis has contributed and continues to contribute to the removal of "limit" factors, which are gradually being replaced by the multitude of progress factors. High-performance sport, in our opinion, has a maxim: "limit without limit", an aspect that must be taken into account in human performance.

Performance sport, by its definition, is a specific activity limiting the physical and mental possibilities of the individual, M. Epuran (1990).

As stated in the literature, maximizing sports performance in tennis cannot be achieved without maximizing all the factors that determine sports performance (physical, technical-tactical, mental), to which are added the capabilities of effort, regulation, adaptation, recovery, nutrition, management, and, of course, the professionalism of specialists and athletes.

When we aim to address such an important issue for the development of game and training models, such as the game model for performance, which we cannot overlook, because, in addition to the volume of scientific and methodological information that specialists he discovers them constantly, in this context being permanently driven by the natural desire for perfection in the field.

Regarding the approach of the game model, it will be for us, the objective of great importance for a series of scientific, theoretical and practical clarifications. We aim to bring theoretical data to practical efficiency, and based on complex studies of the game of tennis at the higher level, to which is added our experience in the field, to be able to concretize the elements of objectification regarding the content, essence, purpose and efficiency, the model of play and physical and technical-tactical training in tennis.

In defining the game and training model in tennis, we started from the evaluation of a series of objective benchmarks, which through the essentiality and frequency of their presence in the game, can create the formal and content framework of the entire training and official game.

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Also, they can offer us a series of components from which we can start in order to achieve a modern methodological thinking, regarding the increase of the efficiency in competition. A first example can be the one regarding the definition and content of the player typology.

The methodology of elaboration of the game and training model is based on a series of data retained from the official top games as well as from trainings, which were constituted in dynamic components of the modern tennis game, such as:

- In the whole process of preparation and play, the physical component has a determining role, with the basic structural side - explosive force in resistance regime;
- The preparation technique for hitting the ball (positions, racket grip, forms of movement on the field, placement of the ball and repositioning on the field), are essential conditions for superior physical and technical training, for the efficiency of tactical game actions;
- Increasing the dominant role of the dynamics of blows from the side and from above, with emphasis on the finishing side of the point;
- Accentuating the acceleration speed of the tennis racket on the final route of hitting the ball, in order to catch the opponent and open wide angles of attack and their efficient use;
- Defining the frequency and content of efficiency factors when hitting the ball (direction, length, speed, trajectory and effect printed on the ball) in order to trigger, maintain, change and combine the mentioned factors, to gain the game point in the four tactical phases;
- The content and scattering area of the ball in the geometric space of the playing field, as well as the game actions specific to the player typology - offensive, defensive and combinatorial - within the forms of adversity with similar or different player typologies, to which is added the actual play and total play;
- Correct ratio between training and competition, by performance stages: children = 25% -75%, juniors = 40% -60%, seniors = 75% -25% (competition-training);
- The correct assembly and development of the training factors according to the purpose and content of the four training micro cycles (basic, with and without competition and compensation);
- The parameters of the official game and their importance for designing the content and conducting the training lesson;
- The content and use of modern methods of physical and technical-tactical training, as well as the use of a specialized fund of means for the purpose pursued;
- Correct and efficient correlation of the effort-recovery ratio in and after the training lesson and on the training macrocycles, with dynamic elements to increase the competitive performance;
- Consideration and application in practice of the trends and evolution of the game at the level of high performance, as a necessity of stimulating and capitalizing on the bio-psycho-motor potential of the tennis player;
- Resistance to stress, increased game capacity, risk taking in the fundamental moments of the game and increasing the percentage of successful actions;
- Development of automatisms regarding the technical-tactical actions of the game, built on an exceptional physical and mental foundation, which would allow the player a smooth and efficient development of the body forces and the dynamics of the game phases, so that the player does not resort to compensatory movements. and erroneous decisions.

All these fundamental components of the preparation process and of a modern game that takes place at the level of performance have been objectified with the help of data collections from the official games of the ATP Tour, Grand Slam, Davis Cup, Tournament of Champions and Open Romania.

The data obtained from the official games and trainings at different stages of preparation, as well as their processing, gave us a complete and complex palette of the official game, which helped us to formulate the model of play and training on all stages of performance.

Based on what we found regarding the recordings and observations made, we can say that the game model in performance tennis also consists of a set of indicators differentiated on somato-functional and

psychomotor profiles, which combined with technical-tactical indicators, essentialize the structure and the content of the game model.

The performance forecast can also be another basic indicator of the game model, because it has in front the dynamics of the competition as well as the training requirements imposed by the training factors, being the value measure of the quality of the training process.

The need to develop the game and training model is given primarily by the fact that it highlights the confirmation or refutation of the athlete's training process, and on the other hand, becomes a concrete object of study and performance measurement using data on the report between efficiency and game or training error.

The evolution of the game point and first of all of the game model, in order to achieve victory in an official competition, can be influenced, among others, by the following factors:

- the quality of the playing surface;
- the value of the opponent;
- sports form;
- the ability to overcome in difficult tactical and psychomotor plan the difficult moments of the game;
- the stakes and the ambiance of the game;
- the quality of the application in the game of the technical-tactical knowledge, respectively of the game model;
- gaming experience;
- environment conditions;
- evolution and efficiency in the game, depending on the type of player and that of the opponent.

In order to better understand the game and training model, we will try to define it as follows: "the game and training model, according to our wording, represents the whole set of scientific-methodical and practical concerns, aiming at the concept of assembly and to diversify the components of the game in the conditions of a permanently offensive adversity and to adapt to the individual particularities and the capacities of the player to carry out the official game at a higher level".

The development of the game and training model offers access to information, to a professional thinking and mentality. It also contributes to the cohesion of a modern conception of the game, as well as a spiritual comfort for the player.

The game and training model in performance tennis, highlights the profile and typology of the player and represents the fundamental condition for capitalizing on the coach's specialized ability as well as the quality of the athlete's training, in relation to the major requirements of current sports performance.

In our opinion, the elaboration of the game and training model also implies systematization in theoretical and practical-methodical plan of some basic principles, rules and requirements regarding the content of the current game, the way of approaching the technical-tactical and physical components, in relation to the evolution of adversity in competition. The game model conceived and applied in the official competitions, automatically leads to the setting of the maximum training parameters, as well as to the efficiency obtained by the player in the official competition.

Once the game and training model is developed, for the coach appears first of all the definition of the criteria and the need to prioritize the basic components of the game, which must be improved with specialized means and methods and adapted to the individual characteristics of the athlete. The game model is subject to the permanent examination of the evolution of the player's training, in terms of performance in training and play, as well as highlighting the champion mentality.

In addition to a number of performance advantages, the model creates premises for increasing the requirements in training and play, regarding the benchmarks for marking specific progress.

The game and training model, once fixed, creates for the coach-sports couple, but also for the team of specialists, the measure of their capacity to increase in performance objectively, so, in this way, the game and training model is an indisputable reality which becomes trainable and measurable.

By designing the game model, variants and stages of their realization can be established, so it can be confirmed that the game model places the training and game strategy on objective bases, from which tactics

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specific to the diversity of situations that are present can be adopted. in performance tennis and which must be known and countered accordingly.

Fixing the game model helps us to formulate more precisely the content of the training on lessons and micro cycles, also it is possible to better manage the preparation time, in the sense of approaching the training factors and the concordance with the training and performance objectives.

Increases the player's personality, when these well-defined game and training regimes are clear and content, and the tennis player can become a creator of tactical variants of the game.

The effective application of the game model in official competitions involves, among others:

- Prove the size and value of the game tactics;
- The physical and tactical mechanisms of the game become effective means;
- Basic regimes in the application of the game technique and tactics;
- Dimensions of motor qualities to support physical effort;
- Self-overcoming capacity;
- An increased ability to concentrate in the active phases of the game and a permanent offensive and efficiency in ball actions;
- Changing the rhythm of the game by knowingly alternating, the hitting force of the ball, the lift effect with the cut one, the length, direction and trajectory of the ball, etc.;
- Triggering and maintaining the direction of the ball along the line or diagonally, until the opportunity is created to complete the action, with large openings of angles of attack and increase the speed and force of hitting the ball, from one action to another;
- Attracting the opponent towards the net and meeting his movement by directing the ball at the level of the legs (ball with low trajectory), or passing;
- The total offensive to the balls that fall near the line of the service space (5-6 m of net) with directions that favor very wide openings of angles of attack, and their efficient fructification;
- Practical knowledge and skills of the game, against right-handed, left-handed opponents or similar or different types of players;
- Equal play in terms of efficiency on both sides of the playing field (longitudinal);
- Dynamic and balanced game with a high percentage of efficiency in conditions of changing the playing surface, weather conditions (sun, wind), spectators, increased physical and mental endurance throughout the game;
- Higher percentage than the opponent, both at the base shots and those with top shots compared to those on the side and vice versa.

Among the factors that contribute to the success of the game and training model, we can also list:

- High speed of analysis of the information from the development of the game and of the efficient reaction (correct and fast decisions of the game), in response to the offensive of the opposing player;
- Depth view of the game object (ball) and of the maneuvers performed by the opponent;
- Focus on triggering the game phases and efficient completion;
- Exceptional volitional qualities in the usual situations and those of high tension of the opponent;
- The level of self-exigency;
- The kinesthetic and spatial-temporal sense;
- The ability to recover in the regular moments of the game and to resume the following phases with maximum force.

At this stage it is considered that the player has reached a high level of training, so that the technical mastery no longer poses problems if it is supported by an exceptional athletic and mental training. Although this is the case, the diversity of the forms of bilateral offensive game requires players to maintain a high level of technical and tactical skills to apply in the game in extremely diverse variants and nuances, which are expressed in particularly refined executions, almost imperceptible at first sight.

The preparation procedures for hitting the ball have a primary role in supporting the technique and tactics of the game. The firmness of the position on the field, always adapted to the areas where the ball falls on the ground, make this process a trigger for actions of great performance and efficiency.

The diversity of the forms of movement in the field, which are the object of sustained trainings, are based on and highlight the motor qualities of force-speed in endurance regime necessary at this level.

The placement of the ball is obvious when the player performs the relocation in the two strategic areas 1 and 2 of the field, respectively the area of the line behind the field and the central area of the intersection of the lines from the service spaces with the center line of the field of play.

The short distances, preceded or succeeded by sudden starts and with firm stops, continued with other actions during the game phases, masterfully outline the physical but also the mental effort to perform some very effective ball actions.

The side and top shots (the 8 technical procedures) ensure the content of the game on the entire surface of the field, formulating for the specific tactics, variants and effective nuances on each phase of the game.

The technical-tactical performance in the game is given by the player's ability to economically but efficiently use each action on the ball, as well as how to force the opponent to make mistakes.

At the junior level, the official game and the training program on the training factors are in a ratio of 65% competition and 35% training, so the competition has a dominant character.

The value of competitions at this level has increased greatly in the last decade, both by the offensive nature of each phase of the game and by the athletic and technical-tactical value of tennis players.

All technical procedures, without exception, have as basic support psychomotor skills and a permanent tactical content, made at the risk area, but also of great virtuosity.

The technical procedures cover the individual characteristics of the players (somatic, psychomotor and even of the player typology), and the efficiency factors with priority those of the direction and speed of hitting the ball, complete the technical arsenal of the game.

The speed of the ball at the sidekicks (right and left), can exceed 80-120 km / h, and at the top kicks are known high speeds that reach values over 200 km / h.

The characteristics of this high level of sportsmanship are practical ways of triggering, changing, maintaining or combining efficiency factors, in conditions of maximum adversity (playing surface, type of opposing players, evolution of the score).

The tactical use of all technical procedures favors the opening of large angles of attack, causing the opponent to cover long distances to cover the playing field and little time for action on the ball, which confirms the meaning and current content of the modern game of tennis.

Conclusions

Official game modeling and training is a very complex notion, with a wide dynamic content and multiple stages of improvement.

The use of modeling in tennis training requires the selection and use of methods and means that in turn can be evaluated and adapted to the stages of evolution of the competitive game.

Modeling is essentially an attribute of superior performance, due to the fact that it is based on the concept of their development by the coach that targets the technical-tactical components of the game, with strategy and game tactics, incorporates the correlated approach to physical and mental effort, mentality and random factors, in a word formulate the model of the game and the player.

Modeling the training and the competitive game of tennis proves the professionalism of the coach and the ability of the tennis player to get fully involved and to become a role model.

From a structural and functional point of view, the method can be considered as a model, an organized set with programs and methodical rules to achieve, respectively with steps of unity between knowledge and action, between theory and practice, which it models, orders and processes according to the final objectives.

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IMPROVING THE EFFORT CAPACITY OF PRESCHOOLERS

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Abstract

Background. It is assumed that the insertion of the physical education elements (movement exercises, movement games, relay race, dance steps) in all types of activities carried out in kindergarten determines the increase of effort capacity (evaluated by the Ruffier test) and there is the possibility of contributing greatly to form as a child, a being who lives in harmony with his colleagues, to behave correctly and civilized.
Objectives. Monitorizing the effort capacity during the development of activities that contain physical education elements. Comparative analysis of the effort capacity between the two monitorized groups.
Methods. Pedagogical observation method. In particular, we aimed to adapt the child's body to the effort by recording the physiological indicators and determining the effort capacity of the cardio vascular apparatus.
The method of graphical representation. The graphical representation method was used for a more complete interpretation of the results obtained in the tests by highlighting the differences between the performances obtained by the subjects at different moments of the research.
Results. In both groups the final results are better than the initial ones recorded at the beginning of the experiment, but in the experimental group there is a significant increase between the final and the initial testing compared to the controlled group where the growth is much smaller.
Conclusion. Proceeding to the insertion of the elements of physical education in all the activities carried out in the kindergartens and not only to the intended activity, it will be realized the presentation of the contents and of the other fields in an attractive, flexible, mobilizing form, which leads the interest of the children for investigation, documentation, research and practical application.

Keywords: *improved, pre-school, effort capability*

Introduction

Knowledge and development of functional parameters has always been a concern of specialists in the field of physical education, because this approach is the basis for the development of various intervention strategies specific to each educational cycle.

The capacity for physical effort is represented by the possibilities of the active muscular system to release the energy necessary to produce a mechanical thing as high as possible and to maintain it for as long as possible.

The muscular system can release energy by anaerobic glycolysis or by oxidative phosphorylation. Depending on the needs and possibilities of oxygen supply, physical effort becomes predominantly aerobic or anaerobic. (Dragan, I, 2002)

The vast majority of specialists believe that exercise capacity can be improved by doing 3-5 workouts per week. They also believe that improving aerobic training is achieved if the duration of the effort is between 30-60 minutes.

For aerobic physical activity to produce metabolic changes, the effort must exceed a minimum threshold, called the aerobic threshold, which depends on the level of fitness of the subject.

Any activity that increases your heart rate for a longer period of time will ultimately lead to improved exercise capacity.

Cooper (1982) considers that the most popular aerobic exercises are: walking, jogging, swimming, dancing and aerobic gymnastics.

The research context

The aim of this research is represented by the optimization of the strategies for developing the effort capacity of preschoolers, by identifying the most efficient aerobic means.

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The aim of the research was also to increase the efficiency of the educational act at the level of preschool education by carrying out different elements of physical education within each type of activities included in the kindergarten program.

One of the basic factors for performing many of the motor actions is the ability of physical effort, which generally means the body's ability to perform a mechanical work as high as possible and maintain it for as long as possible.

Research objectives

a) Studying the way in which the issue is approached in the literature.

b) Application to the experimental group, of the methodical procedures and of the expected content for the improvement of the effort capacity

c) Establishment, battery of measurements and samples through the prism of which the efficiency of the research is appreciated.

d) Carrying out the initial and final measurements and tests on the research sample.

e) Adaptation and application to the experimental group of the intervention plan, in addition to the classical means respecting at the same time the study program.

Experimental research hypothesis

In order to carry out the research, we issued the following hypothesis:

The application of a regular program of sports activities, of aerobic type, of 30 minutes, 3 times a week, will determine positive effects at functional level and will improve the effort capacity of the subjects engaged in research.

It is assumed that the insertion of the elements of physical education in all types of activities carried out in kindergarten determines the increase of the effort capacity, evaluated by the Ruffier test.

It is believed that through the judicious application of the elements of physical education in preschool education there is the possibility to contribute greatly to the formation of a child from a being who lives in harmony with his colleagues, who behaves correctly and civilized.

The Research methods

For the elaboration of the research and especially for the verification of the established working hypotheses we used the following research methods:

Pedagogical documentation, a method that gave me the opportunity to study the literature on the issue of the paper.

Registration method. Subjects recorded heart rate values at different times during the independent program.

Test method. The tests used were directly related to the objectives

For the evaluation of the functional parameters, of the effort capacity, the Ruffier Test was used).

Statistical-mathematical method. The data obtained by tests and measurements were analyzed and interpreted using the statistical-mathematical method;

Graphical representation method: This allowed me to express the processed data and the resulting findings. (Tudor V. 2008)

Conducting research

The study took place during an entire school year. The testing of effort capacity and the development of the educational programs were realized according to the schedule below:

- The first stage – observance – took place in September 2015 and it tested the initial effort capacity for both groups (experimental and control)

- The second stage – the fundamental one – took place between November and May and concerned the training programs for the experimental group. The focus was on applying the intervention program that was done differently. In the same time, the effort capacity was monitored to emphasize progress and improve the intervention plan.

- The third stage – final control stage – took place in June and included the final testing, analysis and interpretation of the Ruffier test results and the checking of the initial hypotheses. Ruffier Test was used to evaluate the effort capacity (physical condition).

Functional capacity testing was done through an effort capacity exploration test.

A non-specific test is used to assess exercise capacity: estimating aerobic power (maximum VO2) by the indirect method, using the Ruffier test.

The Ruffier test uses the formula:

$$\frac{P_1+P_2+P_3-200}{10}$$

P_1 is the pulse in the sitting position at rest for 15 seconds, which then multiplies by 4;

P_2 is the pulse for 15 seconds, while sitting, but after performing 30 genoflexions in 45 seconds, multiplied by 4 (ie 0-12 seconds of the first minute of effort);

P_3 represents the pulse per 15 seconds multiplied by 4, sitting in the 45-60 seconds of the post-effort minute.

The result obtained is interpreted as follows:

- the value below 0 means a very good effort capacity;
- the value between 0-5 means a good effort capacity;
- the value between 5-10 means an average effort capacity;
- the value between 10-15 means a satisfactory effort capacity;
- a value higher than 15 shows that the test is unsatisfactory and further investigations are required.

One of the main factors in the accomplishment of many of the motor actions is the physical effort ability, meaning the capacity of the organism to perform an increased mechanical act and to maintain it as long as possible. The physical capacity is improved following the systematic practicing of the favorable physical exercises, especially the development of the motor skills – strength, speed, resistance and the consequence of this improvement is the increase of the endurance degree of the organs and organism systems to superior stress. The quantity and quality of the effort made during the development process of the motor skills are very important.

The interdisciplinary activities contribute to the application of the unitary approach, that of the integration of the content of more disciplines into a globalized, holistic enterprise, in which the boundaries between the categories and types of activities fade away and are brought together in a unitary scenario in which the theme is investigated by the means of different sciences.

There is an important difference in the effort capacity of children in the experimental group and the one of the children in the control group.

Besides the quantitative data, there is a significant improvement in the qualitative aspects of the effort skills for the children in the experimental group. They have more development autonomy, self-control and planning skills. There are improvements in the other experimental domains, such as a better attention control, better knowledge desire and an improved behavior.

Research results

Table 1. *The average value of the Ruffier index*

Month	September	November	January	March	May	June
Experimental group	22,8	19,14	18,26	14,12	12,61	9,8
Control group	22,7	21,6	19,87	18,11	16,62	15,89

Note: *The table contains the values of the average Ruffier index during the experiment, recorded every two months, in the experiment group and in the control group.*

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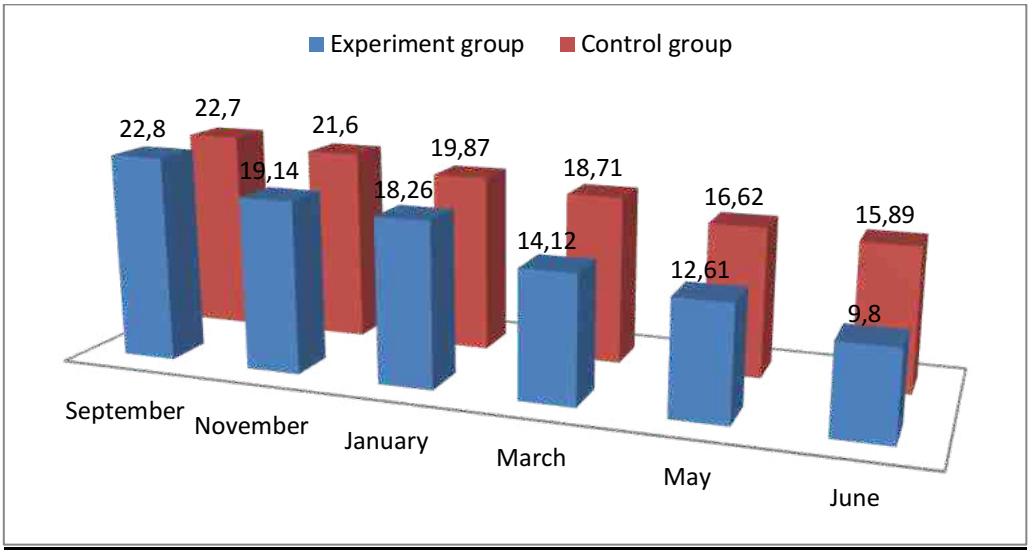

Figure 1. The average of the Ruffier index

In both the experiment group and the control group, there was a decrease in the Ruffier index, which means that the children's effort capacity increased. In the experiment group, however, the capacity for effort is significantly increased, as a result of the intervention plan that included elements of physical education inserted in various contexts.

Both groups (experimental and control) have registered a decrease of the *Ruffier* index, meaning that the effort ability of the children has increased. However, in the case of the children in the experimental group, the effort capacity is significantly increased following the intervention plan that included physical exercises elements inserted in different contexts.

Before the experiment, both groups (experimental and control) had more or less the same medium values (22.7 and 88.8). Later on, the experimental group improves the effort capacity by 57%, while the control group improves it by 30%.

The experimental group has a clear improvement of the effort capacity, changing the score from "insufficient" to "medium" – increasing thus three levels of *Ruffier* index; the control group improves its effort capacity, but it still is in the initial limits of the "insufficient" score.

This is due to the intervention plan applied, respectively to the gymnastics programs, dance, movement games, application routes / routes, relays carried out in the other activities than those of physical education.

The experiment used was of the ameliorating type, according to the hypothesis issued and highlighted the differences of progress of the experiment group compared to the control group, through the different application of the training programs.

The identification of the most efficient operational structures for improving the capacity of effort and motivating the development of physical education elements in various contexts during as many activities as possible correlates with the significant qualitative and quantitative leap registered by the subjects from the experimental group, which verifies the research hypotheses.

In fact, the Ruffier test provides objective indicators for assessing cardiovascular and respiratory function. The fact that the cardiovascular system - highly sensitive and relatively easy to measure - plays important roles in physical exertion, has a high functional lability and reacts quickly even to small demands, recommends it as a tool in researching cardiovascular and respiratory regulation processes.

The applied intervention program produced substantially greater effects on effort capacity.

The study shows that both groups improve their initial value of the parameters, as a result of the training process. However, the magnitude of the improvements is larger in the experiment group than in the control group.

This finding leads us to the same conclusion, namely that interdisciplinary training with the application of elements of physical education is superior to traditional training.

We consider that the programs developed and subjected to experimentation, through specific exercises aimed at improving the capacity of effort, were effective and favor the increase of motivation for practicing sports activities both in general and for their practice as an independent activity.

The results obtained (both of the average values by groups and of the individual values) with the help of the Ruffier appreciation scale are particularly significant for the research hypothesis.

From the interpretation and comparison of the data obtained in the study, the following can be deduced: the proposed programs represent a good means of improving the cardiovascular adaptation to effort; thus in the experimental group there is a significant increase between the final and the initial test in the Ruffier Test compared to the control group where the increase between the initial and the final test is insignificant.

The fact that almost 90% of the subjects in the experiment group went from "unsatisfactory" (on initial testing) to "satisfactory" and "average" after applying programs to improve exercise capacity, supports the idea that elements of physical education throughout the program with preschoolers in kindergarten.

The results of the study show that both groups improve their initial parameters value, following the training program. However, the improvement in the case of the experimental group is higher than for the control group. This leads us to the same conclusion, that the interdisciplinary training with elements of physical exercises is superior to the traditional education process.

We consider that the training programs we have developed and tested, through the specific exercises that were focused on improving the effort abilities were efficient and favorable for the improvement of children's motivation to practice sport activities in general, and to practicing them as an independent activity.

Conclusions

At preschool age, the child feels the need to move, being attracted to dynamic activities rather than static ones. It would be a mistake to stop the desire of free movement activities that the child shows because he could get hurt or he/she is not paying attention.

One can use the games and motor exercises, the fun text and lyrics games, sports activities, thematic dances, popular dances to improve children's moral and will skills, perseverance, competitiveness, creativity, imagination, thinking, judgement, quick decisions making, collaboration, team spirt skills, by paying attention to age particularities and the hygiene-sanitary norms. Introducing physical exercises elements in the activities children perform at kindergarten, their effort capacity, tenacity, distributive attention, anticipation capacity, the integration in the individual and collective activities are increased and preschool children are forced to have a good and sociable behavior.

There was a real progress in what concerns the physical development of the children in the experimental group that benefited from physical education elements during their activities throughout the day spent at kindergarten. Though the main reasons for this increase are usually considered to be the internal factors, the anatomic-physiological conditions specific to the age, by completing them with the physical exercise, the children are healthier and have a correct and harmonious body development and illness resistance. The activities are better performed and in a much better mood when they include elements of physical exercises.

Physical capacity improves as a result of the systematic practice of physical exercises that promote, in particular, the development of motor skills - strength, speed, endurance and consequently increases the degree of adaptation of organs and systems of the body to higher demands. The quantity and quality of the effort made in the process of developing motor qualities have a very important role.

Interdisciplinary activities contribute to the application of a unitary approach, that of integrating the contents of several disciplines in a globalized, holistic approach, in which the boundaries between categories and types of activities disappear, melt into a unitary scenario in which the theme is left investigated with the means of various sciences.

There is a considerable separation of the effort capacity of the children from the experiment group compared to the effort capacity of the children from the control group.

Beyond the quantitative records, there is a significant improvement in the children in the experiment group of the qualitative aspects. They have a capacity for autonomy, self-control, more developed. And in the other experiential fields there is a greater power of directing attention, of determination to know, a behavioral improvement.

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POLIVALENT AND POLYATLETICS TRAINING IN STAGE I OF TRAINING

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Abstract

From the practical activity, the idea that the training of long-term athletes is developed in several stages, is determined by the particularities of age and the general availability of adaptation of the body.

Stage I: basic oriented training – B.O.T. – depending on the specific branch of the sport

This stage represents the initial stage of sports training and has as a general task the creation of general premises for the long-term development of the performance capacity.

The objective is the increase of the effort capacity and the development of the fine coordination of the movements, related to the initiation of the children in the basic athletic tests.

Methods

1. multilateral physical training;
2. polyvalent and polyathletic training
3. physical training specific to the test performed

The subjective sensitivity of learning depends on a variety of factors such as age, prior experience of pre-training or pre-training, aerobic strength and power, and possible specific genetic variations.

Results - percentage graphical expression of the realized volume.

During a year of poly-athletic training, a sample of children aged 10-14 years from a group of beginners of LPS Bv. (Prof.N.G.) and a sample of 6 beginners of the same age LPS Bv. (Prof.B.I.A.)

Conclusions

Initial and final tests were established and progress was made. The end of the initiation and promotion period highlighted a number of 4 athletes with real prospects for athletic performances.

Keywords: *polyvalent, polyathletic, stage I B.O. T., athletic speed runs, specific physical training*

Introduction

From the analysis of the specialized literature (L. Nadory, 1984 quoted by A. Dragnea and S. Mate-Teodorescu, 2002), but also from the practical activity, results the idea that the training of long-term athletes develops in several stages, determined by the particularities of age and the general availability of adaptation of the body.

Stage I: basic oriented training - A.B.O. depending on the specific branch of the sport -

This stage represents the initial stage of sports training and his general task is the creation of general premises for the long-term development of the performance capacity.

The most important objective is the increase of the effort capacity and the development of the fine coordination of the movements, related to the initiation of the children in the basic athletic tests". (7).

"The subjective sensitivity of learning depends on a variety of factors such as age, prior experience of pre-training or pre-training, aerobic strength and power, and possible specific genetic variations." (9).

Methods

Methodical aspects regarding the development of the motor qualities

"The training of the athletes is a process of perfecting the motor skills, developing the possibilities of functioning and educating the motor qualities". (12) "One of the indispensable and basic components of sports training is physical training, which involves:

a) improvement of the motor qualities;

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b) mastery of a wide variety of skills and skills;

c) development of morphological and functional indices of the body, corresponding to the athletic sample". (4)

The complex sphere of physical training, as well as its significance in the process of training athletes, have determined the differentiation of this component into:

1. physical multilateral training;
2. polyvalent and polyathletic training;
3. physical training specific to the practiced test. (6)

Organization of the Text

The means used in multilateral physical training are selected according to the requirement of increasing the morphological, functional and motor capacity of the athletes in relation to the preferred athletic sample.

"The exercises characteristic of the multilateral physical training are taken over and adapted from the arsenal of the specific means of other sports, or specially created by the coaches, which are strictly necessary so that the sports versatility can be viewed not only strictly methodically, especially in the early stages of performance." (3)

Versatility, from our point of view, has a valid support; find more than multilaterality oriented to more plans. The human personality encompasses the physical, psychological, affective, moral and spiritual plane, so the versatility (term specific to chemistry) leads us to think about the connections between these planes.

"Multilaterality leads us to the desired plans and the versatility structures and links them ensuring motor progress." (13)

"The versatility creates the balance between the psychomotor skills and the coordinative ones, gives them valences of skills through the transfer in the area of automatisms. Through its harmony and dynamics, the versatility removes the monotony of constant-applied stimuli and helps to avoid the capping of the results". (6)

The effects of adapting to the effort have materialized in the health of the children and in the sports performance.

"Multilateral and polyatletic training are priorities throughout the preparation of athletic events related to the specific effort." (2)

Specific physical training includes the development of the morphological and functional indices of the organism, as well as of the motor qualities in close connection with the stress demands characteristic of the practiced tests and the improvement of the speed, strength, endurance and skill indices.

Specific physical training cannot achieve the morphological, functional and motor indices alone, but only in close connection with multilateral physical training. "The complex multilateral training must ensure the development of the necessary interdependence between the motor skills and the motor qualities. Motor skills cannot be manifested at a higher level if they are not closely related to motor qualities". (14)

The locomotor, nervous system and metabolism represent three major biological complexes that work in close correlation. Methodology of specialized training in sprint samples in the polyvalent and polyatletic training stage. Speed athletic runs are in what specialists call performance sports, with stereotype technique and generally standardized competitions. This fact requires the athlete to develop muscular skills of strength, speed, endurance and metabolic processes related to the effort. The speed tests in athletics especially require those generally anaerobic mechanisms with a duration of 10 "- 60".

"The request being muscular and submuscular in the training effort or in the competition determines the trainer to know that these samples fall in morphological aspect in the category of those activities that require a high score of the muscular mass and the ability to develop locally this force in regime. medium to high". (10) Therefore, in his metabolic approach, the trainer will use those means force-speed, but also the means that follow the elasticity and the resistance of the execution in the monostructured form.

Now the coach's mastery actually begins. If the means can be noticed, it is more difficult to create the beginner child, those reflexes of adaptation to training stimuli, because in the future, through the effects of

overcompensation it will perform in one of the athletic running tests. "The load and the recovery, the resumption of the request and its duration become mechanisms clearly guided on the principles of the sports coach and this needless study and concern from the coach, motivation and dedication from the sportsman." (9)

The development of speed in post-pubertal athletes has some particularities related to the current level of morphofunctional development of the body. Thus, "while in the other previous stages the speed was developed in its pure form, so-called "base speed", in the post-pubertal stage this path becomes inaccessible because the balance of the two fundamental cortical processes (excitation and inhibition) leads to a gradual decrease of their mobility, limiting itself only to the physiological support of the development of the basic speed." (15)

However, "the functional indicators of the mobility-fundamental nervous processes are higher than those observed in young adults, in the post-puberty stage a slight increase can be obtained of the basic speed through a training oriented for this purpose". (6)

At the beginning of the post-puberty period it is recommended to limit the speed effort using very short and short distances (30-40-60 m), because they correspond to the morphofunctional particularities of the students of this age period.

Gradually the distance can be increased up to a maximum of 200 m, and can be covered without the high demand of circulatory and respiratory devices as an advantageous physiological state. "If the rate of reaction can be less developed at this stage, the other forms of manifestation (movement, repetition, execution) can be successfully developed based on the increase of muscle strength, coordination and improvement of the technique of start and the style of exercise. run". (5; 15)

It was considered that these arguments are strictly necessary, so that sports versatility can be viewed not only strictly methodically, especially in the early stages of performance. "All the factors mentioned can at one time create a favorable environment for the talented child to become a performer." (8)

During a year of polyathletic training, we had a sample of 8 children, aged 10-14 years, from a group of beginners of LPS Brasov (Prof. N.G.) and a sample of 6 beginners of the same age, LPS Brasov (Prof. B.I.A.). We present the criteria according to which they were chosen: health status, frequency of training, discipline during work, motivation for movement, good school performance, relationship with parents. Initial and final tests were established and progress was made. The end of the initiation and the promotion period highlighted among them a number of 4 athletes with real prospects for athletic performances. Of these, one (C.A.) was eloquently highlighted, practicing the performance sport at the national level in the 400 mp test. The level of request (with small exceptions) was approximately the same in each training session.

The children were near (± 1 year). The effects of adapting to the effort have materialized in the health of the children and in the sports performance. Multilateral and polyathletic training were priorities throughout the study year for data collection and systematization of the exercises.

Results

It has been found that in working with children at this level, the studies are interesting with surprising results. 4 representative samples were established. A competitive year was chosen as the study period to track the evolution of these children over time and whether the practice can confirm what the field theory supports. The evolution of motor skills was followed during 9 calendar months, without any scheduled interruption. There were 4-5 weekly training sessions of 2 -2½ hours each.

The compulsory medical check-up was performed at least twice every semester. As a result, we obtained very useful information about the physiological level in which we belong. Somatic data were useful to track nutrition status and changes. Rigorous schedules have been established in accordance with the requirements of the programs, standards and scales for children in this category.

Although they could not fit in all the parameters of volume and especially of intensity, the level of effort was reached in a proportion of 75 - 80%, fact confirmed by the study of the training books of each child in the group. The first test took place in the first week of October. The last test took place in the last week of June of the school year 2013 - 2014.

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The tests included the following tests:

• Flat 50m running speed with foot start - 2 tests (for speed);
• Long jump on the spot - 2 tests (for explosive force of the legs);
• Throwing the ball of the ball with a 3 - 5 step impeller - 2 attempts (for the explosive force of the arms);
• Running 600m (for endurance).

Anthropometric data:

- Height (cm)
- Body weight (kg).

Note: The tables with the calendar schedules, the percentage distribution of the general means of multilateral and polyvalent preparation with the results of initial and final tests in the following figures are presented.

Table 1. *The proposed model for calendar planning*

STRUCTURE MOTOR QUALITIES	LEARNING UNITS	ANNUAL GRADING OF LEARNING UNITS
		SEPT / OCT / NOV / DEC / JAN / FEB / MAR / APR / MAY / JUN
	SPEED-SKILL	
	MOBILITY	
	POWER	
	ENDURANCE	
	PO.-END COM.	Permanent task
BASIC MOTOR SKILLS	WALKING	Application courses
	RUNNING	
	JUMPING	
	THROWING	
USE APPLICABLE MOTOR SKILLS	BALANCE	
	CREEPING	
	ESCALADE	
	CLIMBING	
	TRACTION	
	PUSHING	
ATHLETIC SKILLS	SPEED RUN	
	ENDUR RUN	Cross / Cross
	HURDLE RUN	
	RELAY RUN	Relays
	LONG JUMP	
	HIGH JUMP	
	OINA THROW	
	MED. BALL TH	
GYMNASTICS	ACR.+ JUMPS	
SPORTS GAMES	BASKETBALL, HANDBALL FOOTBAL	COMPLEMENTARY
OTHER SPORTS BRANCHES	SWIMMING	COMPENSATORY

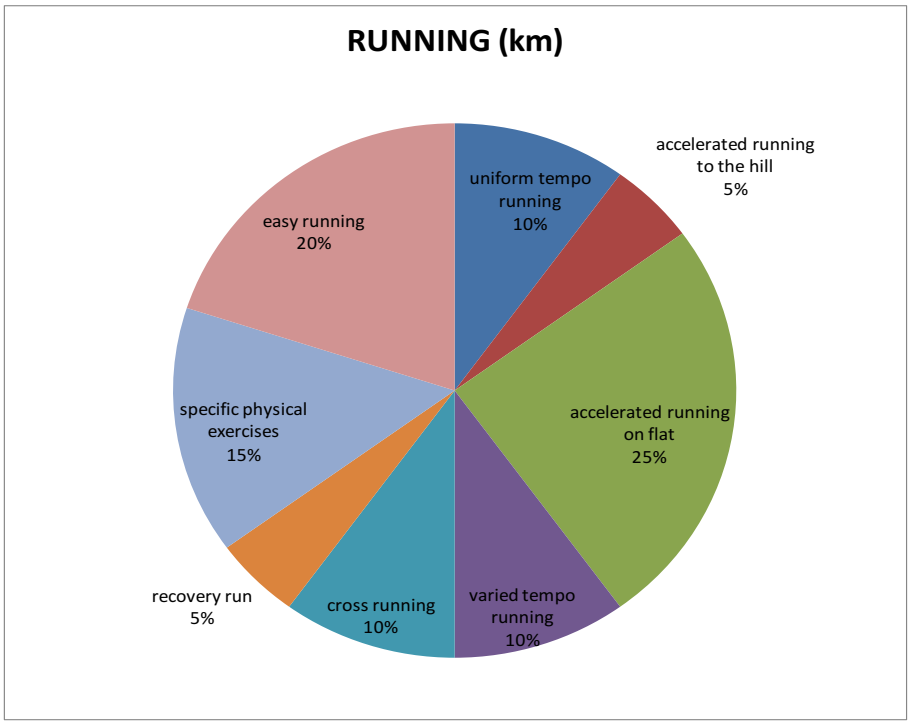

Fig.1 Percentage of throw execution volume, running-specific means

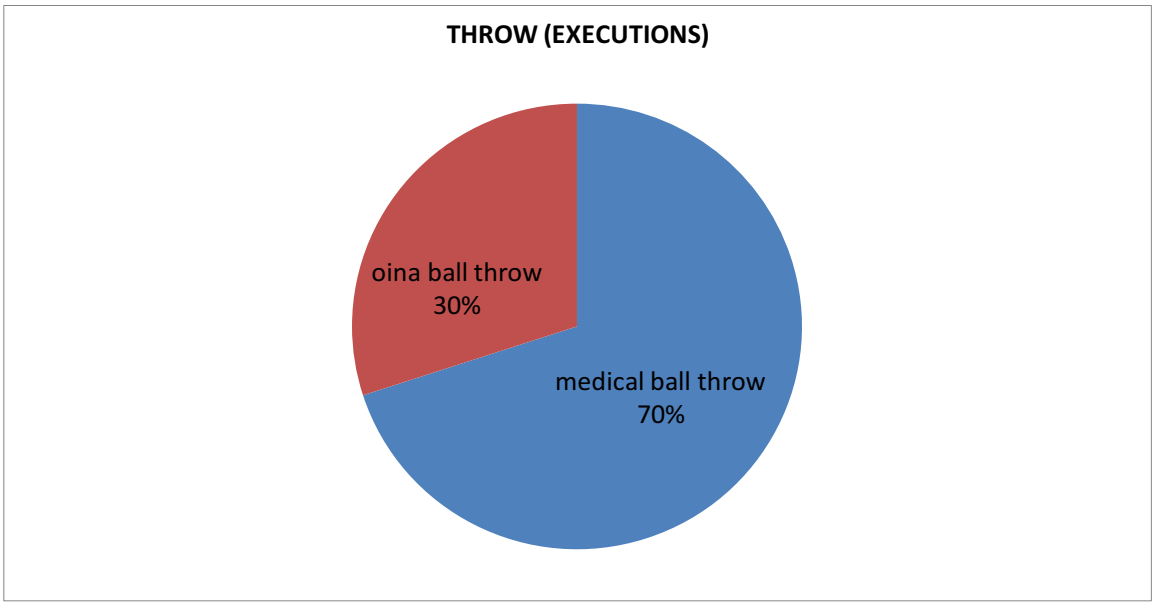

Fig.2 Percentage of throw execution volume

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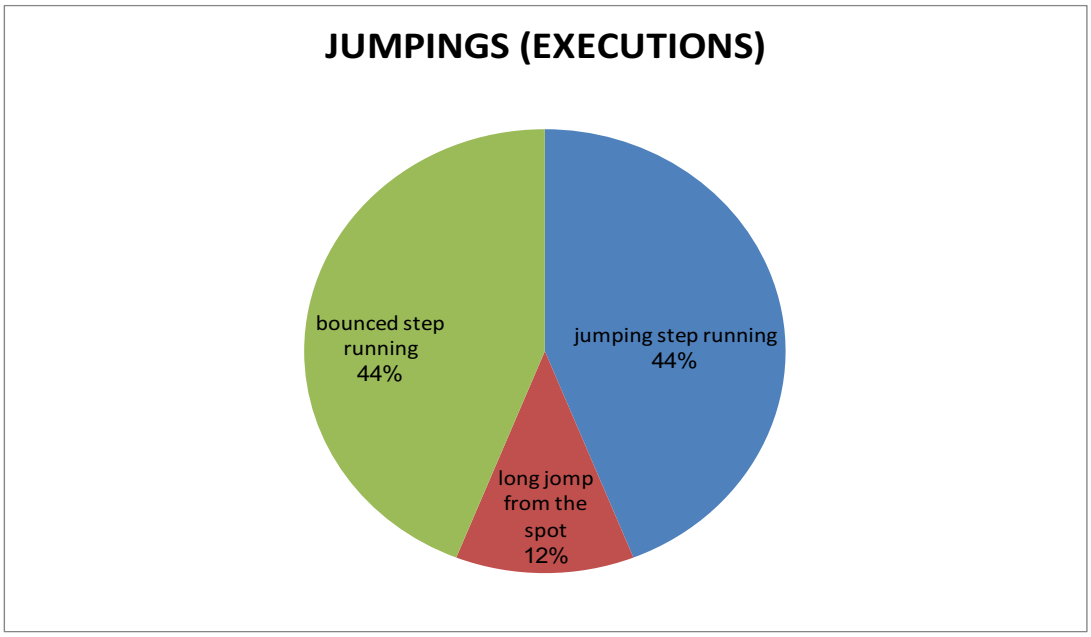

Fig.3 Percentage of jumping execution volume

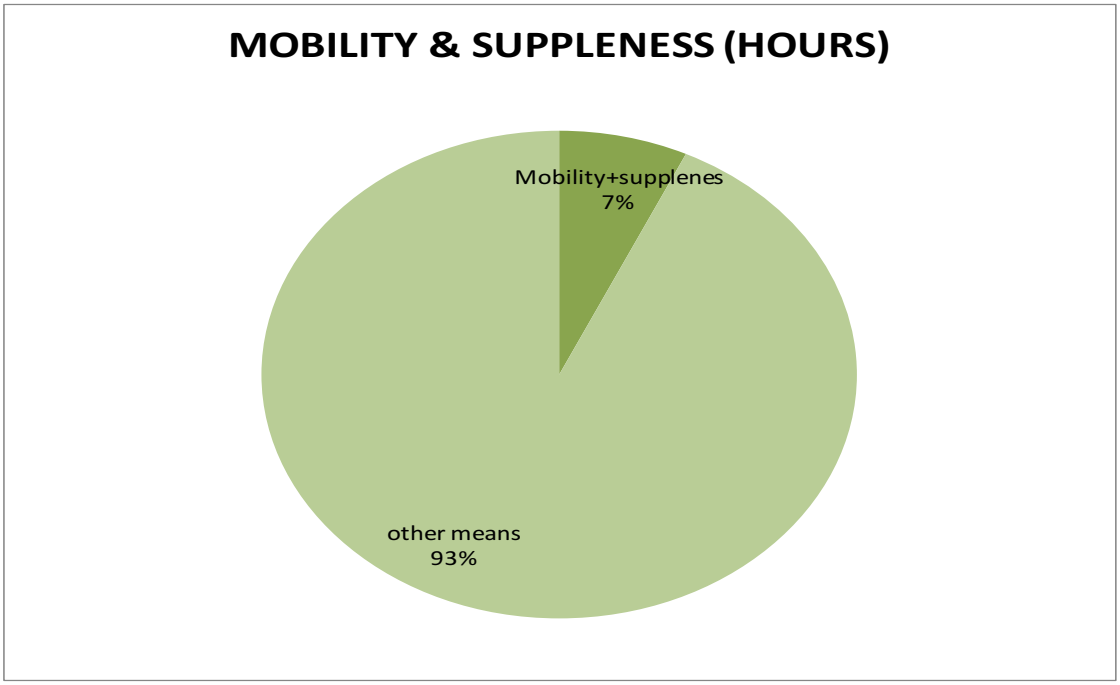

Fig.4 Percentage volume execution means mobility, flexibility, skill

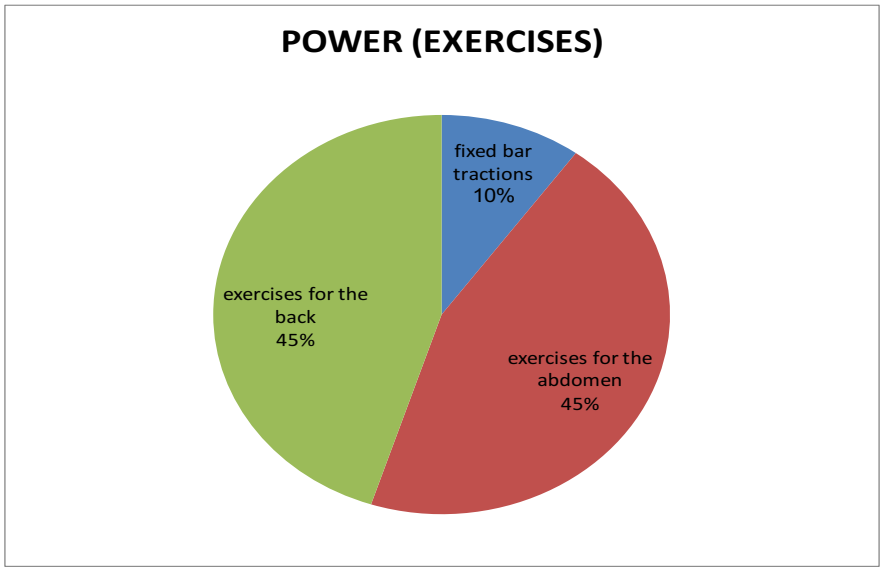

Fig.5 Percentage of execution volume, strenght-power exercises on muscle segments

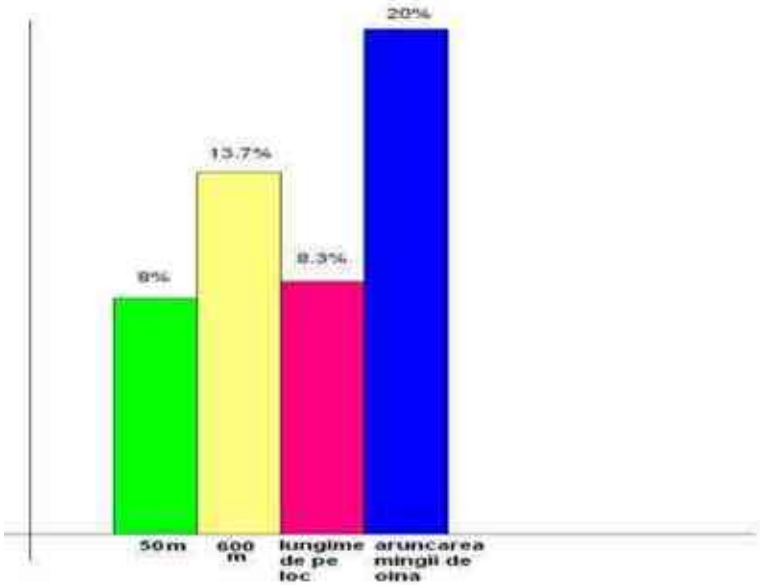

Fig. 6 Comparative graph on the samples adressed in polyathletic training

Conclusions

The study confirmed the hypothesis that not all psychomotor qualities have the same level of development; at this age speed precedes strength and endurance.

There was a significant correlation between the level of strength development and resistance at this age

The means of action must be carefully selected and dosed to ensure the level of versatile training that facilitates the orientation towards a presumptive sample.

The systematic and methodologically oriented work throughout the entire competition year is the guarantor of significant improvements of all the structural and functional parameters of the child's body, with positive effects in terms of general motor skills.

Following the study of the dynamics of the motor capacity indicators in the athlete children of 10-14 years, it turned out that the means, methods and methodological orientation were good; children progressing at the motor level and physical development level.

Proposals and recommendations

An annual training cycle of 11 months is proposed for approximately 280 days, which becomes a constant in our training plans, thus motivating: 13-14 year olds already participate in the junior NC finals based on FRA standards.

Work with models adapted to the level of each training group (beginners, beginners, advanced). We are motivated by this: we are helped to systematically monitor the level of training and how it is supported by the athlete's children.

It is proposed that during the preparatory winter period, the application paths should be found in the coaches' plans, because they compensate by dynamism and attractiveness the low level of effort characteristic of the period in which they work indoors.

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KINETOTHERAPY SECTION

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6-7 YEARS PRESCHOOL CHILDREN MOTOR SKILLS TRAINING AS THE SPINE DISORDERS PROPHYLAXIS

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Abstract

Background. High preschool age is the one at which children's body show a sharp increase in somatic and functional parameters. It is at this age that a series of deficiencies occur in the body of children, often being characteristic for the spine.
Objectives. At this age, an intervention of specialists is required, first of all in the field of physical education. If it is not intervened with concrete methodologies to prevent these deficiencies, they may worsen as children get older.
Methods. For this purpose, a model of means for their application in the physical education and at home with the preschoolers was developed and implemented in a series of preschool units.
Results. The model had a positive effect on preventing the occurrence of different deficiencies of the bone system and first of all the spine in children.
Conclusion. It is shown that by using at large scale the correctly selected physical exercises, one can have a prophylaxis effect of the possible deficiencies of the spine, namely at the age of 6-7 years.

Keywords: *preschool children, spine deficiencies, prophylaxis, motor training*

Introduction

The situation created in the physical education system of preschoolers dictates the need to look for and apply modern methods and means, with a low degree of difficulty, but very efficient, which will contribute to the timely development of physical and psychomotor capacities for the purpose of better health and increased motor experience.

However, the practice shows that most children in pre-school institutions face various problems related to the locomotor system, more specifically the condition of the spine, which is the basic pillar of the human body. The age of 6-7 years is one where the skeleton of the human body is growing, and the specialists in the field of physical education and sport must take into account a series of physiological and anatomical legalities specific to the respective age.

The specialists in the field [6, 7, 8, 10] come with a series of recommendations in this chapter, but these, in the most frequent cases, are medical, that is to say, the application of various medical devices and very rarely is based on the application of the means of physical education and sport [1, 2, 3, 4, 5, 9].

Unjustly, in this case the role of physical exercises for prophylaxis of diseases related to the spine of preschoolers is diminished. Specifically, this aspect, regarding the prophylaxis of spinal deficiencies, has interested us especially in our research and which we consider quite current and absolutely necessary for the field of physical education of preschoolers. For this reason we initiated a pedagogical experiment lasting one year, where we developed an experimental model focused on the means of physical education under different special exercises complexes that the children carried out in the kindergarten, but also at home under the attention and control of parents. All of these were aimed at prophylaxis of the deficiencies of the spine of the children involved in this experimental study, as well as examining the efficiency of the application of the means of physical education on the level of their motor training.

The experimental program

In order to verify experimentally the efficiency of the practical application of the pedagogical model of prophylaxis of spinal deficiencies, as well as of the experimental program developed by us, we conducted a pedagogical experiment lasting one year with the children from the preschool institutions in Bucharest (Romania), they are 6-7 years old, graduates of pre-school institutions. Both at the beginning of the pedagogical experiment and at the end of it all the children were tested on four basic indicators that were of particular interest to us. This is about the dynamics of children's motor training, the indices of physical development, the functional and of course training, the evolution of the deficiencies of the spine of the children examined.

Results

In the following we will present the evolution of the motor training indices of the children involved in the pedagogical experiment (Table 1).

Table 1. *The results of the physical training of the preschoolers of 6-7 years in the pedagogical experiment*

No.	Tests	Gender	National Standard	Initial evaluation $\bar{X} \pm m$	Final evaluation $\bar{X} \pm m$	t	P
1.	Push-ups (no)	Boys	8	5,16±0,17	6,02±0,16	3,91	< 0,001
		Girls	8	2,48±0,15	3,35±0,15	4,35	< 0,001
2.	Abbs (no)	Boys	15	7,04±0,20	8,11±0,19	4,11	< 0,001
		Girls	15	6,45±0,19	7,24±0,19	3,16	< 0,01
3.	Forward bending (cm to floor)	Boys	+5	0,30±0,09	0,59±0,09	2,42	< 0,05
		Girls	+5	0,31±0,10	0,60±0,09	2,23	< 0,05
4.	Long jump on the spot (cm)	Boys	140	76,12±1,27	80,04±1,25	3,14	< 0,01
		Girls	130	72,08±1,49	77,13±1,47	2,58	< 0,05
5.	Short distance running (3x10 m)	Boys	9,4	12,16±0,09	11,84±0,09	2,67	< 0,01
		Girls	9,6	13,08±0,11	12,66±0,10	3,00	< 0,01

According to Table 1, for the evaluation of motor training, five tests were subjected to the research, which largely assesses the level of motor preparation of the children included in the pedagogical experiment, these being the push-ups (test for assessing the development of the strength of the arms), abbs (test for assessing the level of development strength of the abdominal muscles), forward bending (test for assessing the level of development of the spine mobility), long jump on the spot (test for assessing the level of development of the explosive force) and short distance running (test for assessing the level of skills).

If we analyze the first test, the push-ups (fig. 1), which represents the level of development of the strength of the arms, we notice that in both boys and girls, the final results are much higher compared to the initial ones. Although, in both groups there were statistically significant increases ($P < 0.05$), in both cases the results do not reach the maximum standards of children for this age, which is equivalent to 8 push-ups.

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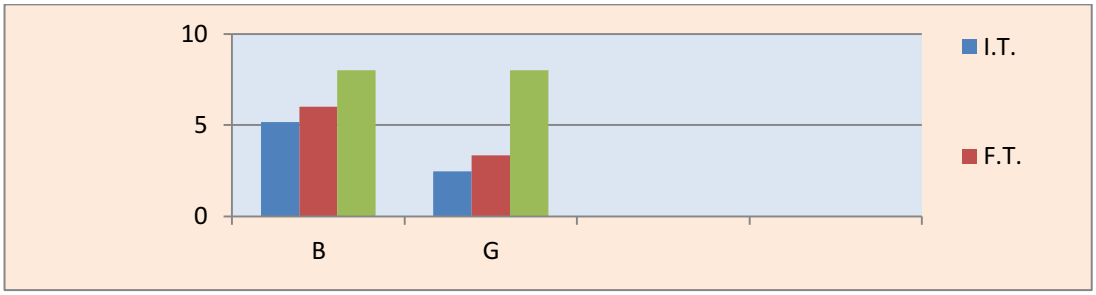

Fig.1 The results of the hands strength test of the children included in the pedagogical experiment

If we look at the evolution of children at this parameter we notice that in boys the initial data were equal on average with 5.16 push-ups, and in girls with 2.48 push-ups, that at the end of the experiment this indicator would increase to 6.02 push-ups in boys and 3.35 push-ups for girls. As mentioned, the final results are below the national standards at this criterion, but here we have to make a remark that comes to clarify this, being the highest national scale, and the minimum scale being equivalent to 2 push-ups. Therefore, this indicator has increased quite a lot, although the force is not the most indicated quality that can be developed at this age, according to the sensitive periods of development of the motor qualities.

Another group of muscles that was subjected to research was the abdominal one, which represents the level of development of the abdominal strength of the children (Fig. 2.). In fact, this test as well as the previous one is the one that represents the level of the development of the force, but this time it is about the abdominal force, which was represented by the test called abbs, that is, lifting the trunk from the lying position in 30 seconds. This is a standardized test applied in pre-school institutions.

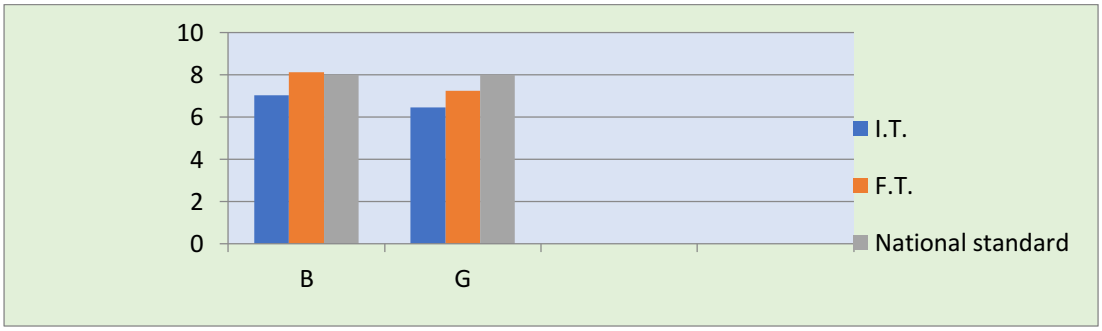

Fig.2 The results of the abdominal muscles strength test of the children included in the pedagogical experiment

As in the case of the previous sample, in this indicator, statistically the children made quite significant progress in both boys and girls (P <0.05). If we analyze the results of the boys at the initial test we notice that they are equal to 7.04 trunk lifts, that at the end of the pedagogical experiment they increase to 8.11 trunk lifts. Although the visible difference does not seem to be too large, statistical calculations have shown that this is significant where P <0.05.

The same tendency is noticed in the case of girls, who at the beginning of the experiment registered a result equal to 6.46 trunk lifts, that at the end of the experiment it would increase to 7.24 trunk lifts. Statistical calculations showed that the difference between the initial and final results was significant (P <0.05).

Although, in both cases, boys and girls, the final results were below the national standards at this indicator, it is worth noting that they had a rather high ascendancy compared to the initial data, which speaks

to the efficiency of the experimental methodology applied with the children involved in the pedagogical experiment.

The next indicator subjected to our research was the appreciation of the spine mobility for children aged 6-7 years (Fig.3), which was represented by the bending forward test, from the standing on the gym bench position, where the child was to make a maximum forward bending and the distance that the children covered by this fold was recorded.

According to the literature, children aged 6-7, both girls and boys, should have at least 8-10 centimeters (plus) at this test, although national standards are +5 centimeters in both cases. However, we note that although the results in both cases improved compared to the initial ones, the increases in this respect were not that obvious.

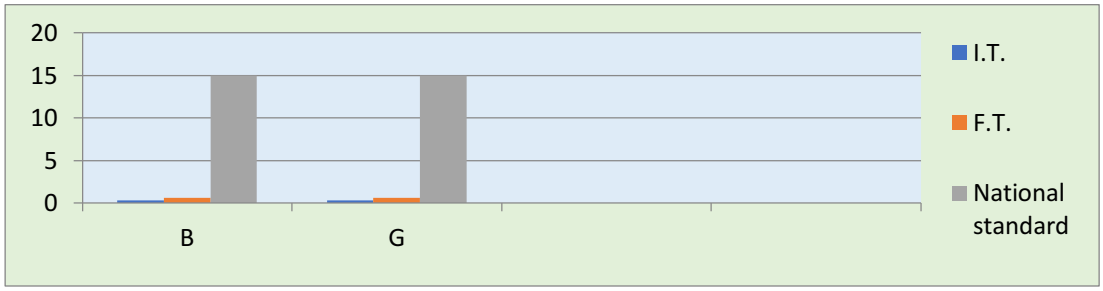

Fig.3 The results of the spine mobility test of the children included in the pedagogical experiment

For example, in boys at initial testing this indicator was equal to 0.30 centimeters, so that at the end of the experiment it would reach values of 0, 59 centimeters. However, statistical calculations indicate a significant difference (P <0.05) between the initial and final results.

The results of this indicator are very little different in the case of girls, where at the beginning of the experiment they had a result equal to 0,31 centimeters, at the end of it reaching 0.60 centimeters. As in the case of boys, the statistical calculations indicated a significant difference (P <0.05).

Another indicator that was subjected to our research was the force-speed, this being represented by the test "long jump on the spot" (Fig. 4).

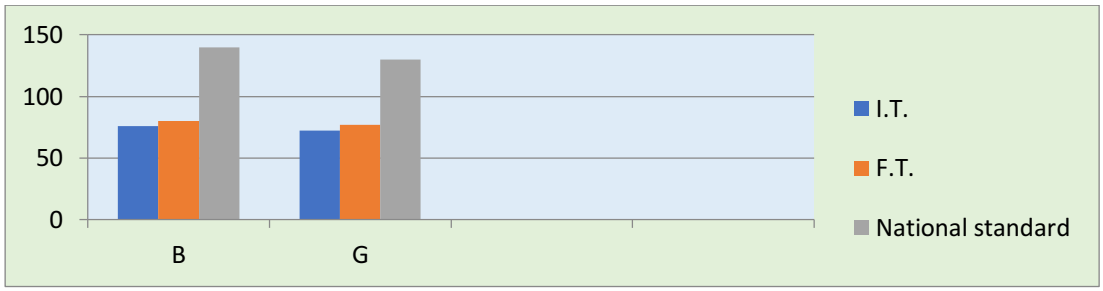

Fig.4 The results of the force-speed test of the children included in the pedagogical experiment

Although the national standards on this indicator are quite high, the children recorded some rather impressive results at the end of the experiment compared to the initial data. It is worth mentioning that this test is not only physical but also technical, that is, children must know the technique of performing this test. This has actually resulted in relatively poor results compared to national standards, where boys are 140 centimeters and girls 130 centimeters.

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Following the recorded results we see that the boys initially had the average result of 76.12 centimeters and at the end of the experiment they progressed to 80, 04 centimeters. The progress of boys in this regard is very clear, where according to statistical calculations the difference was significant (P <0.01).

About the same tendency is noticed in the case of girls, who at the beginning of the pedagogical experiment registered a result equal to 72.08 centimeters that at the end of it progressed to 77.13 centimeters, the difference being about 5 centimeters, and this was statistically significant (P <0.05).

Therefore, the experimental methodology applied with the preschoolers of 6-7 years old was quite effective in the training of their strength and speed, which can generally influence the health of children of that age.

The last indicator that was subjected to the research was the test that expresses the level of development of children's skills, a quality quite important for them, especially at the age of 6-7 years. This quality was tested by means of the 3x10 meter short run test (Fig. 5).

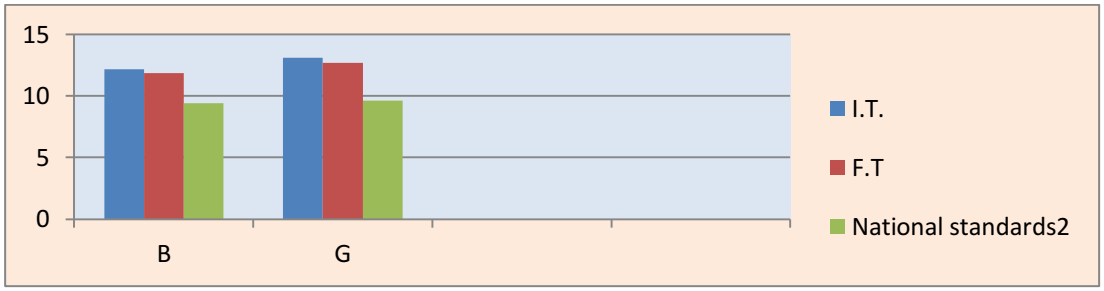

Fig.5 The results of the skills test of the children included in the pedagogical experiment

As with most of the indicators tested, the children had approximately the same tendency in terms of skills, that is, compared to the national standards they were at a lower level. In contrast, the difference between the initial and final results, both for boys and girls, was quite large, and according to statistical calculations this was significant (P <0.01).

If we analyze the results of this indicator separately, we notice that the boys at the beginning of the pedagogical experiment registered results equal to 12.16 seconds of the test, and at the end of the pedagogical experiment they registered 11.84 seconds. At first glance, it would seem that the difference is not too big, but according to the statistical calculations this is a significant one (P <0.01).

The same thing is noticed in the case of the girls, who at the beginning of the experiment registered an average value equal with 13.08 seconds, that at the end of it reaches values equal to 12.66 seconds, that is a difference of about 0.4 seconds, which, over the course of a year is a pretty good result.

So, even in the case of skills, the results of the preschoolers of 6-7 years were as expressive as possible, which confirms once again the efficiency of the experimental methodology proposed by us.

Conclusions

Therefore, analyzing the results of the level of motor training of the preschoolers aged 6-7 years, it is very well demonstrated that the experimental methodology proposed and applied in the pedagogical experiment with the duration of one year was quite effective. Even if they did not reach the national scales for most of the indices under test, the children in all cases improved their initial results.

According to the recorded data, the most eloquent results were detected in the case of the development of the strength of the arms and of the abdominal muscles force, as well as in the development of the skill.

Although visible progress has been made in the development of other motor qualities, however, the most conservative are the speed and force-speed tests, where although significant progress has been made the results have not been as high as for the other tests mentioned above.

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HOW TO CORRECT OR AMELIORATE THE POSTURAL DEFICIENCIES BY DOING KINETIC EXERCISES WITHIN SPORT LECTURES

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Abstract

Background. The characteristic position to a human being is orthostatic, it shows an antigravity posture. Using neuromioartrokinetic interventions for conservation leads to a transformation of the posture or a correct and normal attitude also called the position of the orthostathic alignment.

Preventing the occurrence of postural deficiencies represents the primary prophylaxis (also known as primary prevention) and can be achieved by keeping a correct attitude of the body, self-control both in daily routines and professional ones. It is a regrettable reality the fact that part of students presents different physic deficiencies. They practice medical gymnastic in different groups, differentiated by their diagnostic. Different techniques that are applied in these groups lead finally to a delay of the evolution, the amelioration and correction of the physical deficiencies.

Objectives. The scope of this paper addresses the need of correction and improvement of the student's postural deficiencies through implementation of a therapeutic program, based on a large range of techniques which are going to be adapted to the particularities of each and every subject during the sport lectures.

The aim of these corrective exercises during sport lectures was to generate a reflex action that trigger a correct, upright body posture both in student's static or dynamic activities.

Another objective of the sport lecture was related to the muscular tonus of the posterior plan of the trunk and reestablishing the correct posture of the shoulders, sholder blades through shortening the musculatures designed to secure the pectoral arch.

Methods. The following research methods were used: Specific documentation; Testing and measuring methods; Mathematic methods of statistics; Methods using graphs and diagrams; Functional evaluation comprised the following tests for measuring and posture assessment as well as the amplitude of the movement. At the beginning and at the end of the recovery period following tests were conducted: Tests Ott and the distance fingers to the ground floor.

Results. Initial test revealed that the average values are almost similar to both groups. The final test showed significant differences between the two groups. For the experimental group the results indicated a significant increase between the final test and the initial one ($p<0.05$). The null hypothesis is accepted for both groups.

Conclusion. The intervention plan applied in sport lectures comprised the following techniques: the correct or hypercorrect posture, maintained through various methods; passive movements, assisted and active activities, isometric contractions and different techniques related to proprioceptive facilitation.

Applied kinetic programs were various and numerous, being organized and implemented in accordance to individual necessities and were oriented to the following directions: to develop to prevent, to compensate and to correct.

A consistent practice of the therapeutic programs will prevent the aggravation of accumulated deficiencies and in the end to a ceased evolution of the deficiencies. We recommend our students to continue these therapeutic programs out of the sport lectures to consolidate the results they already achieved.

Keywords: *deficiencies, posture, kinetic exercises, students*

Introduction

The paper brings up the issue of vertebral static disorders addressed for the first time in our country by the illustrious Prof. Dr. A. Ionescu, at a time when statistics reveal alarming increases in these physical deficiencies in all age groups, but especially in children, adolescents and young people.

That is why their early detection and the establishment of the appropriate treatment are able to stop the evolution towards the structural forms and to obtain the correction.

Unfortunately, there is an increasing incidence of incorrect posture. There are also people for whom body posture is only an aesthetic attribute, the cause being primarily the lack of information. It should be noted that incorrect postural attitudes that persist over the years can create a high degree of discomfort, pain, often disability, and can lead to pathological forms that are difficult to recover only through physical therapy.

In the dictionary, posture is defined as follows: POSTURE (<fr. Posture) - Stabilization of different components of the skeleton, one against the other, in a certain bodily attitude, conducive to the development of an action. There are two major postural systems: the antigravity posture, which ensures the maintenance or restoration of body balance in a fundamental orientation in relation to weight (physical vertical). It allows bipedal position and is a reference base for spatial orientation and vertical spotting; directional posture, which modifies antigravitational postural architectures, organizing itself in relation to environmental stimuli (Larousse, 2006).

The body's posture is influenced by three factors: heredity, pathological conditions and habit. The general appearance of the body (or, rather, its physical configuration) is - according to Sbenghe T. (2005) - the result of three factors: a) the attitude of the body, which is determined by the ratio between the parts that make up the musculoskeletal system. principal of the evaluation; b) body growth, as a result of quantitative accumulations, in terms of height, weight and size, depending on age and sex; c) global development in relation to age. In applying this therapeutic procedure, the following recommendations must be taken into account: the application of the posture should be based on the patient's full acceptance and cooperation; he must be informed that corrective positions are not always comfortable, but must be accepted for their beneficial effects; the corrective posture sometimes has an analgesic role, in which case the patient must understand and cooperate for the serial application of this therapeutic procedure; the duration of maintaining the positions is variable, depending on the nature, severity and evolutionary stage of the disease. Corrective positions (free, free-assisted or fixed) are addressed only to the soft parts.

Posture is a function of the body based on the synergistic and coordinated action of the elements of the musculoskeletal system and the central and peripheral nervous system to maintain: body stability, balance and constant relationships between body segments and the body and the environment (Cordun M., 1999).

The characteristic position to a human being is orthostatic, it shows an antigravity posture. Using neuromioartrokinetic interventions for conservation leads to a transformation of the posture or a correct and normal attitude also called the position of the orthostathic alignment.

Preventing the occurrence of postural deficiencies represents the primary prophylaxis (also known as primary prevention) and can be achieved by keeping a correct attitude of the body, self-control both in daily routines and professional ones. It is a regrettable reality the fact that part of students presents different physic deficiencies. They practice medical gymnastic in different groups, differentiated by their diagnostic. Different techniques that are applied in these groups lead finally to a delay of the evolution, the amelioration and correction of the physical deficiencies.

The scope of this paper addresses the need of correction and improvement of the students postural deficiencies through implementation of a therapeutic program, based on a large range of techniques which are going to be adapted to the particularities of each and every subject during the sport lectures.

The aim of these corrective exercises during sport lectures was to generate a reflex action that trigger a correct, upright body posture both in student’s static or dynamic activities.

Another objective of the sport lecture was related to the muscular tonus of the posterior plan of the trunk and reestablishing the correct posture of the shoulders, shoulder blades through shortening the musculatures designed to secure the pectoral arch.

The following research methods were used: Specific documentation, Testing and measuring methods, Mathematic methods of statistics, Methods using graphs and diagrams. Functional evaluation comprised the following tests for measuring and posture assessment as well as the amplitude of the movement. At the beginning and at the end of the recovery period following tests were conducted: Tests Ott and the distance fingers to the ground floor.

Research organization

The research took place in the gyms of the University of Bucharest with 40 students enrolled in the medical gymnastics course, between October 2018 and May 2019, broken down into three stages: in the first stage, somatic evaluation, on second stage of the development of the kinetic therapeutic intervention program and the last stage: final evaluation and processing of test data and interpretation of results obtained.

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To determine the efficiency of the differentiated activity carried out with the experimental group, we used a control group, who preferred the traditional medical gymnastics lesson, within the basic course. Both groups consisted of 20 students.

The training project consists of medical gymnastics programs.

- The evaluation included the following tests for measuring and evaluating posture. and range of motion.

At the beginning and at the end of the recovery period, the same tests were performed:

The examination of the mobility of the dorso-lumbar spine included the following tests:

- Ott's sign,
- finger-ground index .

The content of the kinetic program

The kinetotherapeutic program has as starting points three landmarks:

- local postural reeducation
- regaining suppleness
- regaining strength

The intervention program included: Techniques, procedures and methods used in physiotherapy.

Posture and body alignment correction uses as techniques and methods (Albu, C., 2007):

1) correct or hypercorrected posture, maintained by various fixation methods;
2) passive movements, assisted and active movements;
3) isometric contractions;
4) various proprioceptive facilitation techniques.

Techniques, procedures in medical gymnastics:

• corrective positions for the correction and prevention of deviations;
• corrective gymnastics for training both the spine and the upper and lower limbs;
• chest and abdominal breathing exercises.

The results obtained

In order to analyze the obtained results, the arithmetic mean of the values of the subjects' parameters was calculated. Following the application of the experiment, the following changes were registered:

Table 1. *Mean values of the Ott test*

Ott test	T1	T2	T. dependent	p
Experimental group	2,58	4,72	2,76	< 0,05
Control group	2,46	3,90	1,14	> 0,05

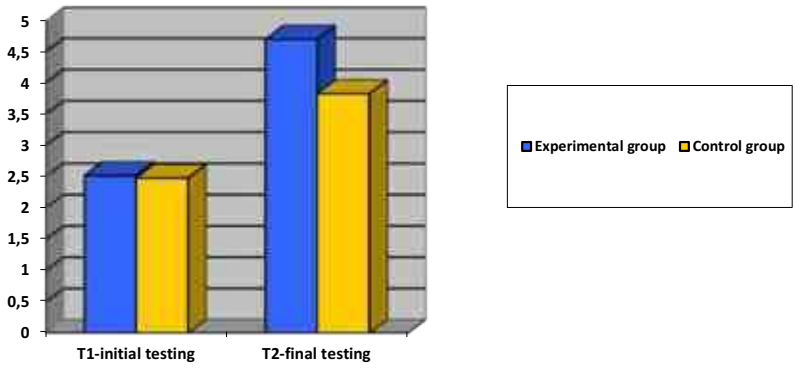

Fig.1 *the Ott test*

At the initial test the average values are close to both groups; at the final typing, significant differences are observed between the two groups: 4.72 in the experimental group compared to 3.90 in the control group. The degree of homogeneity is high in both groups. In the experimental group there is a significant increase between the final and the initial test ($p < 0.05$). The null hypothesis is accepted for both groups.

Table 2. *Average values of the "Finger-Ground" Index*

Finger-to-ground index	T1	T2	T. dependent	p
Experimental group	-6,29	-2,49	2,79	< 0,05
Control group	-5,64	-4,59	1,07	> 0,05

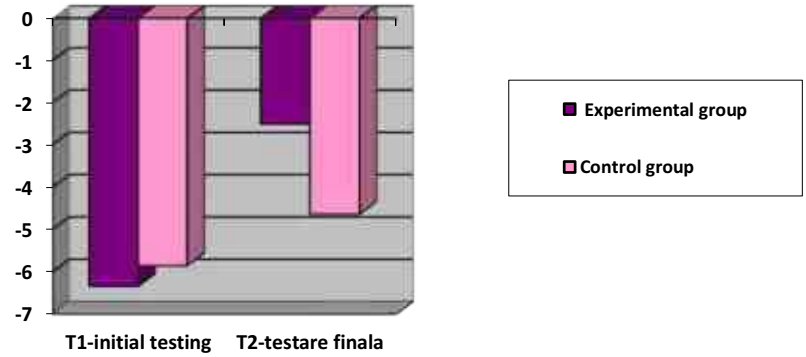

Fig.2 *The "Finger-Ground" Index*

At the initial test the average values are close to both groups; at the final typing, significant differences are observed between the two groups: -2.49 in the experimental group compared to -4.59 in the control group. The

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degree of homogeneity is high in both groups. In the experimental group there is a significant increase between the final and the initial test ($p < 0.05$). The null hypothesis is accepted for both groups.

Conclusions

From the results obtained from the experiment, I highlight the following conclusions:

At the initial test, the average values are close to both groups; at the final typing significant differences are observed between the two groups: In the experimental group there is a significant increase between the final and the initial testing ($p < 0.05$). The null hypothesis is accepted for both groups.

The kinetotherapeutic means used helped to maintain the functional parameters at limits close to normal.

The means used have physical therapy functional parameters from close to the normal range.

The structuring of a well-dosed and individualized physiotherapy recovery program and its application with perseverance and continuity has determined the improvement of joint mobility and the increase of muscular strength.

The intervention plan applied in the physical education lessons included the following techniques: correct or hypercorrected posture, maintained by various fixation methods; passive, active and active movements; isometric contractions and various proprioceptive facilitation techniques. The applied kinetic programs were varied and diversified, being organized and developed in accordance with the individual needs and were oriented in the following directions: to develop, to prevent, to compensate, to correct. Consistent practice of recovery programs prevents the aggravation of acquired deficiencies, stopping their evolution. We recommend that students continue their recovery programs outside of the physical education lesson to consolidate the results obtained.

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VARIA SECTION

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SPORTS AND THE VALENCIES OF HUMAN RIGHTS PROTECTION

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Abstract

„Practicing sports is a human right"[1], so „every person should be able to practice sports according to their needs". Although the European Convention on Human Rights does not officially recognize this right, the European Court of Human Rights has emphasized, through its case law, the importance of respecting fundamental human rights in the field of sports. The decisions of the sports federations challenged before the courts or of the sports arbitration entities, have often serious consequences for the sports actors. That is why it is particularly important to analyze the guarantees granted from the point of view of human rights so that, taking into account also the autonomy of the sports structures, national or international sports federations respect these rights and, at the same time, develop the most appropriate legal mechanisms and instruments.

In this context, the respect for human rights, seen as universal principles, has become a key issue in sports disputes, both for sports organizations and for courts or sports arbitration entities.

Objectives. In the present scientific approach we set out to identify the sources and mechanism of human rights in the field of sports.

Methods. We will use the historical method, we will analyze the sources of human law, and, at the same time, the relevant jurisprudence of the European Court of Human Rights.

Results. As issues in the field of sports are closely linked to non-respect for human rights, we aim to highlight their importance, so that there is a balance between the interests of the parties: the sports structures that draw up their own regulations and the actors of sport.

Conclusion. Sports is closely linked to the protection of human rights because, on the one hand, „practicing sports is a fundamental right of everyone", and on the other hand, this field, by its essence, implies the existence of fundamental principles.

The knowledge of the sources and mechanisms of protection of human rights in the field of sports will allow sports structures to develop, in accordance with the principle of autonomy, policies of their own regulations, which will maintain an adequate balance of the interests of the parties.

Keywords: *human rights, sports, protection, athletes.*

Introduction

Although the article 8 of the Olympic Charter proclaimed the practice of sport as a fundamental human right, the European Convention on Human Rights did not officially recognize this aspect; however, the jurisprudence of courts has demonstrated the importance of respecting these universal principles.

"Usually understood as inviolable rights to which a person has an inherent right simply because he is a human being"[2], human rights have been based on many legal instruments: Magna Carta Libertatum-1215, Petition of Rights-1628, Habeas Corpus-1679, Bill of Rights-1789, Declaration of Independence of the United States-1776, US Constitution-1787, Declaration of the Rights of Man and of the Citizen-1789 etc.

At European level, the most important catalog of fundamental rights is the Convention for the Protection of Human Rights and Fundamental Freedoms-1950 (European Convention on Human Rights), supplemented by the European Social Charter-1960.

Although there are currently a large number of legal instruments, human rights can be grouped into three categories:

1. Civil and political rights: the right to life, the right to liberty and security, the right to a fair trial.

[1] Art.8-Olympic Charter.
[2] Sepúlveda, Magdalena; van Banning, Theo; Gudmundsdóttir, Gudrún; Chamoun, Christine; van Genugten, Willem J.M. (2004); Ghid privind drepturile omului, (ed. 3rd ed. rev.). Ciudad Colon, Costa Rica: Universitatea Peace.

2. Economic, social and cultural rights: the right to education, the right to work, the right to fair working conditions.

3. Collective rights: the right to peace.

Fundamental human rights in the field of sport:

In order to understand the importance of respecting fundamental human rights in the field of sport, we have to approach the principle of autonomy of the sports movement.

European sports has a pyramidal structure, namely all sports clubs are affiliated to a national federation, and this to a regional and international federation for each sports discipline.

Considering this pyramidal structure, the autonomy of the sports movement represents the fundamental legal instrument, which protects the sports structures against the excessive intervention of other authorities, especially the public ones, in the organization, development of sports competitions. At the same time, it represents the monopoly of each international sports federation regarding, on the one hand, the establishment, modification, interpretation of the rules of the games. Also, sports structures are the only entities that have the capacity to create their own legal system that resolves conflicts related to sports activity.

In the context of disciplinary and arbitral proceedings, the issue of protection of fundamental human rights is essential both for sports structures and, especially, for athletes.

By virtue of the monopoly to regulate the statutes or the regulations of each sports, the sports structures insert clauses by which the arbitration becomes obligatory, the athlete being mandatory to give up the settlement of the dispute according to the common law. Thus, the monopoly of sports structures gives them extensive competencies, violating the emphasis on fundamental human rights.

In the field of sports there are a multitude of arbitration mechanisms: International Volleyball/Handball Court etc. At the international level, in 1983, Court of Arbitration for Sport -TAS (Lausanne, Switzerland) was established by the International Olympic Committee. The competence of the TAS is very broad, on the one hand because it concerns the settlement of factual and legal issues, and on the other hand, because the sports federations have included a clause in their statute regarding the obligation of arbitration at the TAS. TAS judgments can be challenged (reviewed) before the Swiss Federal Court. Numerous disputes related to sports activity have highlighted the reviewing of decisions, including the TAS, in terms of non-compliance with fundamental human rights. Also, the constant jurisprudence of the TAS has highlighted the fact that the idea of applying the European Convention on Human Rights directly to sports structures, but rather indirectly to them, as well as to arbitration bodies, is generally rejected.

Regarding sports arbitration tribunals, there is the issue of their impartiality and independence, related to the provisions of Article 6 of the European Convention on Human Rights (Convention): *The right to a fair trial.*

In the Cases Mutu and Pechstein v. Switzerland[3] - 40575/10 and 67474/10, by the Judgment of 2.10.2018 [Section III], the European Court of Human Rights ruled, pursuant to Article 6 § 1 of the Convention, on the fairness of the proceedings before the CAS.

Thus, with regard to the independence and impartiality of the TAS, the European Court has held that, although the TAS is a private law entity, factual and legal matters subject to control"; the Swiss Federal Supreme Court ruled that the TAS's decisions were "true judgments comparable to those of a state court". In conclusion, there was the appearance of a "court established by law" within the meaning of Article 6 § 1 of the Convention.

Often, anti-doping measures have infringed the right provided for in Article 8 of the Convention - *the right to respect for private and family life:* "everyone has the right to respect for his private and family life, his home and his correspondence". The purpose of Article 8 of the Convention is to avoid the intervention of any public authority in the rights recognized by the Convention.

[3] In fact, in the first application, the applicant was a professional footballer who was obliged to pay a very large sum to his club for the unilateral termination of the contract. The applicant in the second application was a speed skater for whom doping penalties were imposed. These two requests were problematic. For details see the website https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-187214%22]}, accessed on 07.05.2020.

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Mainly, public authorities or institutions have a negative obligation not to infringe the rights recognized and protected by Convention, but there are also situations when they also have positive obligations, so there must be a balance between them.

Health is a sine-qua-non condition of sports performance so all its related elements must be viewed and interpreted from the perspective of the first concept.

Article 3 of the Convention stipulates the prohibition of torture: no one shall be subjected to torture or to inhuman or degrading treatment or punishment.

The qualification of the concept of "degrading treatment" is related to the circumstances of the deed, the type of treatment, its effects, consequences etc.

In the field of sports, the concept of "degrading measures" can be associated with testing procedures against doping, overtraining, etc. Sports performance involves very high physical and psychological wear and tear, often the consequences being very serious: injury, abandonment of sports life, of professional life, of education etc.

The category most affected by "inhuman or degrading treatment" are minor athletes, this concept includes all forms of physical violence (threats, insults, etc.), psychological, abuse, ill-treatment, sexual exploitation.

In the Case Hentschel and Stark v. Germany-Application no. 47274/15[4], having as its object the complaint of two football supporters concerning the ill-treatment to which they were subjected by the police following a match and the improper nature of the subsequent investigation, the Court found "that Article 3 (prohibition of inhuman treatment or degrading) of the Convention in respect of the treatment of police applicants, being unable to establish beyond any reasonable doubt that the events took place as described by the applicants.

However, the Court ruled that art. 3 of the Convention as regards the investigation of the applicants' claims. In this regard, the Court noted, in particular, that "law enforcement officers did not wear badges with their individual identification names or badges, but only identification numbers on the backs of their headphones. Therefore, other measures to establish the identities of those responsible for the alleged ill-treatment have become particularly important. However, the difficulties resulting from the absence of identification badges were not sufficiently counterbalanced by other investigative measures. In particular, only excerpts from the videos recorded by law enforcement agencies were transmitted to the investigation unit and no other potentially relevant witnesses were identified and heard"[5].

One of the rights infringed, including in the field of sport, is provided by Article 10 of the Convention-*Freedom of expression:*

1. Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers (...).
2. The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.

According to the Court's consistent case law, Freedom of expression "is one of the essential foundations of a democratic society and one of the basic conditions for the progress and development of every individual"[6].

Also, the Freedom of expression has in its content "information, harmless or indifferent ideas, but also those that offend, shock, disturb (…)"[7].

[4] For details see the website http://ier.gov.ro/wp-content/uploads/fise-tematice/FT-Sport-si-CEDO-ian-2018.pdf, accessed on 07.05.2020.
[5] Ibidem.
[6] Mauvement Raelien Suisse v Switzerland, 13 July 2012, Application no.16354/06 apud Human Rights Protection in Europe in the context of sports organization disciplinary and artitration procedures-EPAS-Council of Europen, Good practice handbook no.5-P. Cornu, S.Robert-Cuendent, L.Vidd.

At the same time, the Court pointed out that Freedom of expression is not an absolute right, there are certain exceptions that impose a restrictive interpretation, the public authorities or institutions having a negative obligation not to infringe this freedom, including in relations with individuals; therefore, Article 10 of the Convention has horizontal effect.

In the field of sport, Freedom of expression is related to the specificity of sport: on the one hand, it is necessary to establish the positive and negative obligations of the state, on the other hand it is necessary to ascertain the manner in which the right provided by Article 10 of the Convention has been violated.

In the cases of Hachette Filipacchi Presse Automobile and Dupuy v. France-Application no. 13353/05- and Société de Conception de Presse et d'Edition et Ponson v. France-Application no. 26935/05[8], the Court ruled that art. 10 of the Convention was not violated in relation to "the protection of public health, the urgent need to take measures to protect our societies from the scourge of smoking, and the existence of a European consensus on the prohibition of advertising of tobacco products, the Court of found that the restriction of the applicants' freedom of expression in this case met a pressing social need and was not disproportionate to the legitimate aim pursued".

The jurisprudence of the European Court of Human Rights has highlighted that in sports activity other human rights and fundamental freedoms are infringed:

- Article 2 of the Convention: *The Right to Life* - Case Harrison and Others v. the United Kingdom (dec.) - 44301/13, 44379/13 and 44384/13-Decision 25.3.2014 [Section IV],
- Article 9 of the Convention: *Freedom of thought, conscience and religion* - Cases Dogru v. France (application no. 27058/05) and Kervanci v. France (no. 31645/0),
- Article 11 of the Convention: Freedom of assembly and association (Case Association Nouvelle Des Boulogne Boys v. France-Application no. 6468/09),
- Article 14 of the Convention: *Prohibition of discrimination* - Cases Hachette Filipacchi Presse Automobile and Dupuy v. France-Aapplication no. 13353/05, and Société de Conception de Presse et d'Edition et Ponson v. France Application no. 26935/05 etc.

Also, the settlement by the Court of disputes having as object the violation of fundamental human rights in sports activities, the sanctioning of sports structures that do not respect the grounded principles, determined the sports movement to approach this category of rights more seriously and, moreover, to incorporate them into the statutes, regulations of international sports federations. In 2017, international sports bodies, such as the International Olympic Committee (IOC) and FIFA, began to incorporate human rights provisions into their statutes and future regulations[9].

Conclusion

Sports is closely linked to the protection of human rights because, on the one hand, „practicing sports is a fundamental right of everyone", and on the other hand, this field, by its essence, implies the existence of fundamental principles.

The knowledge of the sources and mechanisms of protection of human rights in the field of sports will allow sports structures to develop, in accordance with the principle of autonomy, policies of their own regulations, which will maintain an adequate balance of the interests of the parties.

We appreciate that the international and national sports movement need, now more than ever, a sustained collective effort in terms of rethinking, reorganizing and repositioning world sport, especially in terms of respect for fundamental human rights and freedoms.

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[7] Axel Springerv v. Germany, 7 february 2012, Application no.39954/08; Gillberg v.Sweden, 3 April 2012, Application no.41723/06 apud Human Rights Protection in Europe in the context of sports organization disciplinary and artitration procedures-EPAS-Council of Europen, Good practice handbook no.5-P. Cornu, S.Robert-Cuendent, L.Vidd.

[8] For details see the website http://ier.gov.ro/wp-content/uploads/fise-tematice/FT-Sport-si-CEDO-ian-2018.pdf, accessed on 07.05.2020.

[9] Daniela Heerdt , The Court of Arbitration for Sport: Where Do Human Rights Stand?10th May 2019.

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HOW TO BECOME A SPORT CHAMPION

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Abstract

Many teenagers dream to become a sport champion. But in order to achieve their dreams they should know they must respect the golden rules, such as: start practice sport since childhood, work hard, respect a healthy and adequate nutrition and work with a good trainer. As you grow up, we will also need a mental coaching.

The first step is setting the intention which is the motor that starts everything in motion. Without setting intention, your life wanders around aimlessly without goal or direction. After you set your goal it is very important to believe in you, because the mind is the creator of all things and will give you the strength to work hardly. The next step is to start training and now you'll need a trainer in order to learn the adequate technique to develop and to improve it and to start planning a tactic in competition. The path to your dream won't be easy task - it takes commitment, patience, and perseverance.

Nowadays the native talent, the will and work are not enough. The sport performance requires a lot of time and money so the children will need to have their parent support. This support materializes in trainings, professional equipment, the adequate nutrition and step by step even a mental coach that can help you build a strong. champion character.

Since childhood they should participate to inter -school competitions at popular sports such as soccer, tennis, handball, volleyball basketball etc. and to continue with "high schools Cups". This amateur competition will give them the chance to taste the victory and performance, will strengthen their character and will.

The teachers/instructors will select students with specific skills and abilities for a sport and they will start together the process of creating the future champion.

Introduction

Sport is a very complex and challenging area in which many sportsmen dream to become champions. However very few of them manage reach the top and even fewer become champions.

To become a champion requires few indispensable elements like: *physical abilities, mentality,* commitment*, adequate training, sacrifice, time, resources and* very important *adequate support.*

1) Physical abilities are the basis for a future champion. If the candidate to a sport meet the requirements, has the chance to develop, to evolve to gain performance a maybe will finally become a champion. Therefore, selection is very important. For example, a person wish to become a boxer but his physical constitution makes him more suitable for tennis. First step to become a champion is to find out if the sport you embrace and practice is in accordance with your physical *abilities.* The practitioners who do not have adequate body characteristics for a certain sport, may evolve, may gain progress, but if the body does not help them, it is very improbable to become champions. If we consider the fact that for a sport practitioner that meets all the requirements for a certain sport he needs a 5 to 10 years to reach the peak of performance, we understand how important are the *physical abilities* in starting the long road from beginner to champion. The age at which a person starts to practice the sport is to be considered. A person who practices sport for 10 years is more likely to reach the success than a person who has 2 years of practice.

2) Mentality - makes a practitioner of a sport to tackle properly all the challenges may confront with. Passion for sport fortifies and make the practitioner feel that he belongs to that sport. He will not easily feel

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weak, the determination will help to overpass the effort he does. Such a practitioner will train most of the day without feeling exhausted at physical and mental level.

Mike Tyson for example was training in a brutal manner reaching 5 to 5 training session per day. Asked why is he running at 4.30 AM he answered: *I do that because I know while I am training, my adversary sleeps.*

Mentality makes a sportsman to evolve, to accept sometimes failure and continue improving his results. Mentality makes a sportsman who wish to become champion say: *I never lose, I either win or I learn!*

Muhammad Ali stated: *To become a great champion you need to believe you are the best. If not, pretend you are!*

3) Adequate training - is essential when considering to evolve to champion. Therefore, modern bases for training are required. Methods of training continuously evolve and the trainers should be permanently updated to offering to trainee the best solutions in order to help him improving performance and reaching new records. Some sports require experienced partners for training while individual sports require focus on method. Each training method should consider physical attributes of sportsman, in order to make him give his best performance.

4) Sacrifice - sportsmen need often to make sacrifices.

Some may need to quit their habitual actions or to comply to diet restrictions. Clubbing and night life may impede to a champion route. Therefore, discipline is compulsory here. It is not easy to avoid cookies for an athlete that loves them, still sacrifice to become champion is needed. Sacrifices are made also in spending a lot of time for training and less with the families. Sacrifices are made when cancelling a planned vacation for sport. Friends and families are required to support sportsmen because without sacrifices you can not become champion.

5) Time - performance is reached in time!

Each sport requires time for training. More than 60 percent of their time was consumed for training by world's champions. Practice in certain periods of time of the day combined with discipline and determination may produce a champion. It is not easy to train 6 hours a day for example if we consider travel from home to training area, preparation and adaptation then travel back home. Michael Jordan famous basketball player stated: *Champions don't become champions when they win an event, but in the hours, weeks, months and years they spend preparing for it!*

6) Resources - always make the difference!

A sportsman seeking to become champion needs an at least decent financial situation to reach his goal. Nutrition, individual equipment, access to training bases or recovery facilities may cost. A sportsman with full job outside sport that make that for living will lose advantage to one that is only doing sport. An adequate nutrition program might often be expensive.

7) Adequate support - is essential in certain moments. That should come from trainer, team, family and society. The sportsman needs to be fully understood and encouraged. The trainer or mentor is the person with first responsibility in offering support. Some champions had some family issues and team became second family who offered support and made him cross over difficulties and reaching own goals. Family needs to support a future champion. His evolution may request some sacrifices and avoid of tensions to give his best. In certain situations, psychological support might help those aiming to become champions.

To become a champion is not easy nor convenient. The multitude of factors presented above are just few. Talent is a vector but without other factors fulfilled does not grant success.

Romania produced in time a great number of champions in many sports. However, most of them had not the best condition to train, neither best equipment. Some of them have been blamed by society when failed. They did not receive adequate support. Still their determination and skill of their trainers made them go further. They managed to make sportsmen to **control negative emotions.**

8) Mental training matters for success!

Setting up a positive mindset before competitions is essential. Positive anticipation reduces emotional reactions due stress before reaching performance.

Relationship between mind and emotions works on both directions: even if emotions are the result of cognitive interpretations, they might have impact on thoughts.

Before competition, the body starts preparation by producing hormones among them adrenaline. Attention focus on future actions, mind becomes more active.

This rise of excitation might be positive or negative for sportsmen. Adequate set up of mind consist in rationally orient emotions to foster success.

Some sportsmen associate this risen excitation with enthusiasm, with preparation of the body to face competition.

On the other hand, there are sportsmen who interpret physiological changes like risen cardiac rhythm as anxiety, worry and fear, with negative impact.

Mental training may include use of repetition of positive self - declaration.

Affirmation like: *I train hard and I am in a great shape!* - helps to concentrate attention on own person so positive feelings about competition shifts to optimistic.

We present an example of emotion management technique that might be used before competition:

Step 1 - sportsman closes eyes, empty mind and focus on deep breath, rhythmically inhaling by nose and exiling by mouth;

Step 2 - remind a former victory, recreate and living the feelings of that event;

Step 3 – re-focus the attention on competition to start.

Emotions are important in sport. Even some persons have emotional side highly developed, if they take mental control and follow psychological instructions, sportsmen might reach optimal preparation for performance.

In general, self-trust tends to rise when the sportsman believes in own abilities and considers himself ready for a competition or event.

Worries and trust are two aspects at opposite sides of a continuum - when self-trust is strong will tend to eliminate worries from area of attention.

Negative emotions may influence performance - mentally and physically

First, negative emotions determine a slow of rhythm. Frustration and fury as they intensify, generate muscular tensions, breath difficulties and affect capacity of coordination of movements.

Also, quantity of energy decreases and fatigue appears.

Mentally, negative emotions become indicators of beliefs which disarm, sportsmen do not trust no more in themselves neither in their capacity to reach goals.

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THE PROPORTION OF SPORTS ACTIVITIES IN THE UNIVERSITY OF BUCHAREST STUDENTS' LIFE REGIME

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Abstract

Background. The idea of free time has worried people since ancient times. Aristotle once said "that free time does not mean the end of work, but, on the contrary, work means the end of free time."
It should be used for recreational activities, creation, literature, science, art, philosophy and sports.

Today, the concept of leisure time acquires a richer understanding, apart from time for rest, recreation, fun-leisure, tourism, time for training and professional development, to improve one's methods, all this after he has fulfilled his professional, family and social obligations.

Aspirations and behaviour related to (regarding) free time and the way of using space in this leisure time, have changed profoundly in recent years in Romania as well.

The researchers, know that practicing physical activity regularly, leads to substantial and lasting benefits in terms of health and quality of life.

Objectives. The purpose of this study consists in understanding the place that sports activities occupy in the life regime of the UB students.

Methods. Research methods: scientific documentation, questionnaire-based on investigation, statistical-mathematical processing and graphical interpretation.

The survey was conducted in 2019 and consisted of a questionnaire, containing a set of 8 questions applied to a number of 100 students of the University of Bucharest.

Results. Following the multiple answers regarding the proportion of sports activities in the students' life regime, the subjects have opted as it follows: 76% do occasional sports, and only 16%, systematically. Unfortunately, 8% do not play sports at all. Most students (90%) prefer recreational sports and only 2% do performance sports and 8% do not play sports at all.

Regarding the type of sports activities preferred by students, on the first place in overall standings were those for relaxation and leisure, with a percentage of 44%, followed by those for body maintenance, with 42%, the third place is occupied by races and contests, with 6% and 8% do not play sports at all. Among the sports activities practiced by the students during the weekend we specify fitness, jogging, soccer and swimming.

Conclusion. Free time has a special impact on the life of each human being. This can be an advantage or a disadvantage, depending on how it is used. The study revealed that the students use a part of their free time for socializing and sedentary activities, but also for practicing sports.

Keywords: *sports activities, free time, students.*

Introduction

The idea of free time has worried people since ancient times. Aristotle once said that "free time does not mean the end of work, but, on the contrary, work means the end of free time."

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The researchers know that practicing physical activity regularly, leads to substantial and lasting benefits in terms of health and quality of life.

Today the concept of free time has a wide circulation. Around this idea, a rich socio-pedagogical literature was elaborated and at the same time, researches for deepening and revealing the educational potentials of free time on all stages of human life began to be initiated. (Balint G., 2007)

Recreational sports activities as a way to spend free time have a relatively recent debut. With a history of no more than 20 years abroad and less than 10 to 15 years in Romania, they have reached a level that now allows access to as many people as possible, not only specialists or adrenaline enthusiasts.

The functions of leisure movement overlap to some extent with those of physical education and sports. They have a constant character and at the same time respond to real needs of free time: entertainment, fun and development, improvement (Rata G., 2007).

Numerous philosophies and preoccupations of different specialists in the field have been added to the free time, among which we mention that of the sociopedagogue Joffre Dumazedier, quoted by Rata G, 2007.

It defines the concept of leisure, through the three "d's":

- delassement
- development
- distraction

Issues addressed

In approaching the issue of this topic, we started from the finding that sports activities performed in an organized manner, is an effective means of improving the physical and mental condition of young people.

Systematic physical activity is the safest and cheapest way to avoid various diseases. It improves health in several ways: it reduces the activity of the heart muscle, reduces the risk of cardiovascular disease, protects against osteoporosis, helps increase bone mass. The positive influence of physical activity also appears in the psychological sphere. It reduces anxiety, alleviates depression, improves sleep quality and good mood. Moreover, the physical effort made in the group also has the role of social integration. Physical activity is also a way to escape from everyday problems, to forget about the stress of the day, because when we exercise, we give ourselves completely to physical effort. Due to physical effort, our mental state improves, which leads to a good mood.

Physical activity performed in an organized way has positive effects on people who practice it. This activity combats sedentary lifestyle, which can lead to serious illness from an early age.

In the current conception, the sports activity in the free time acquires two fundamental aspects: on the one hand the practical utility and the fight against fatigue, and on the other hand, the undisputed pleasure of the physical exercises and the outdoor movement of the people. The useful use of physical exercise must be complemented by the pleasant spending of time outdoors, in leisure activities, practicing, sports, games and tourism, as well as activities such as cycling, fishing, hunting.

These sports activities must be organized with colleagues, friends, family both in non-competitive form (walks, excursions, dynamic swimming games, etc.), as well as in the form of competitions.

It is essential that these physical education and sports activities enter the daily life of each young person.

The purpose of this study consists in understanding the place that sports activities occupy in the life regime of the UB students.

Methods

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Regarding the type of sports activities preferred by students, on the first place in overall standings were those for relaxation and leisure, with a percentage of 44%, followed by those for body maintenance, with 42%, the third place is occupied by races and contests, with 6%. Among the sports activities practiced by the students during the weekend we specify fitness, jogging, soccer and swimming.

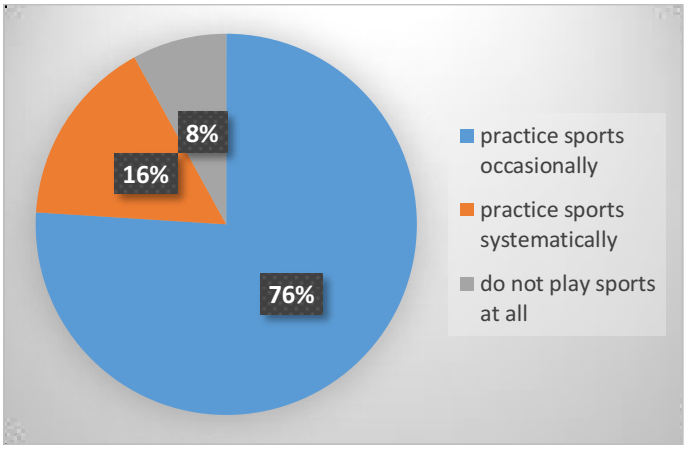

Fig.1 Answers regarding the proportion of sports activities in the students' life regime

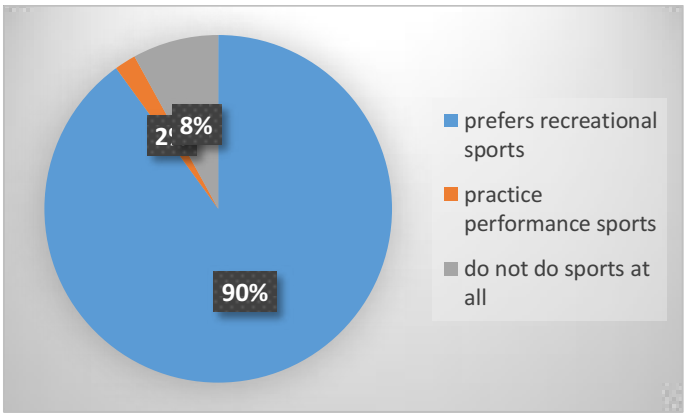

Fig.2 Students' preferences regarding the practice of sports

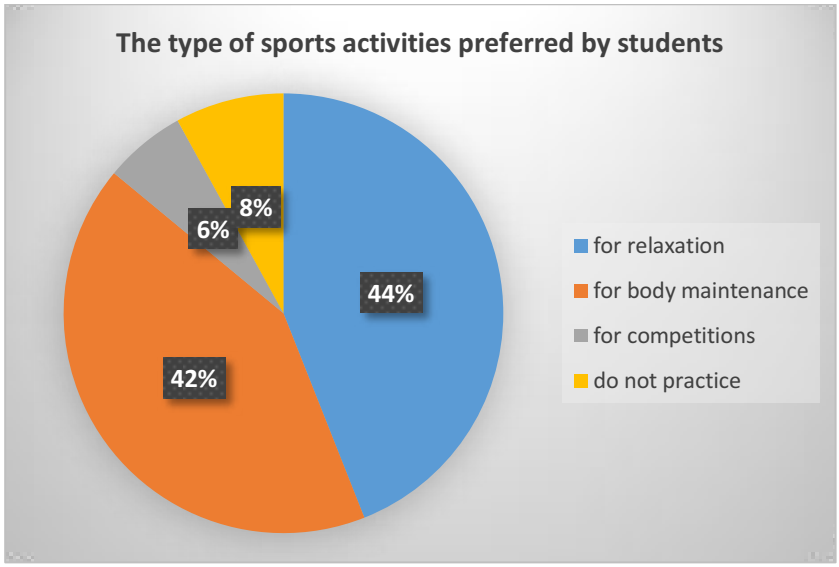

Fig.3 The type of sports activities preferred by students

Conclusions

Free time has a special impact on the life of each human being. This can be an advantage or a disadvantage, depending on how it is used. The study revealed that the students use a part of their free time for socializing and sedentary activities, but also for practicing sports.

Gradual accustoming of students to the systematic practice of physical exercises means modeling, awareness and active participation. Thus, we can say that sports education acquires a projective-formative character, which, together with the other educational factors (family, youth organizations), make their actions convergent.

If free time is used wisely, it becomes a means of formation of human personality, continuing education.

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PHYSICAL ACTIVITY AND THE IMMUNE SYSTEM – A BRIEF REVIEW

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Abstract

Background. Physical activity is an essential element in maintaining optimal health. Studies on this topic shows that the physical condition of the body can influence the evolution of a disease, such as viral infections. Very recent research supports the idea that regular exercise could be effective in prevention and could reduce the risk of severe lung complications, including the disease of 2020 - Covid 19. (Yan, Z., Spaulding, H.,2020).

Social distancing measures taken to control the current COVID-19 pandemic have led to limited physical activity options. Many people are in quarantine or self-isolation at home. However, this should not lead us to adopt a sedentary lifestyle, which is associated with decreased immunity.

Studies suggest that the prolonged intense exercise causes immunosuppression, whereas moderate-intensity exercise improves immune function and potentially reduces risk and severity of respiratory viral infections. (Martin, S., Pence, B., Woods, J., 2009).

Objectives. We propose a brief overview of the current global phenomenon, the pandemic Corona virus, which affects the quality of life of people around the world and how it can be combated with physical activity.

Purpose: In the context of the novel coronavirus outbreak, that question has gained urgency and also, thanks to recent research, emergent answers. The purpose of this work is to highlight the influence of physical activity on the immune system. The latest science suggests that being fit boosts our immune systems, and that even a single workout can amplify and improve our ability to fight off germs (Nieman, D., Wentz, L., 2019**).**

Conclusion. Exercise has a profound effect on the normal functioning of the immune system. It is generally accepted that prolonged periods of intensive exercise training can depress immunity, while regular moderate intensity exercise is beneficial.

Keywords: *physical activity, immune system, acute exercise, chronic exercise.*

Introduction

The immune system is a set of complex interactions involving various organs, structures and substances, including white blood cells, spinal cord, lymph vessels and organs, specialized cells in certain tissues of the body and specialized substances called serum factors, which are present in the blood. Ideally, all of these components work together to protect the body against disease and infection. Therefore, the immune system represents the totality of defense processes of organisms against pathogens, including intracellular organisms (viruses). This role of defense is very important for maintaining the health of the body.

Exercise has a profound effect on the normal functioning of the immune system. It is generally accepted that prolonged periods of intensive exercise training can depress immunity, while regular moderate intensity exercise is beneficial (Simpson, R.J., Kunz, H., Graff, N.A., 2015).

Doctors recommend exercising to promote a healthy lifestyle and thus to maintain a high immune system. Studies show that acute exercise has a beneficial effect on the immune response against viral respiratory infections. This type of exercise leads to an increase in the number of white cells - neutrophils and NK cells (Natural Killer cells), which are an essential role in the body's innate immunity. They are specific for the innate immune response and quickly block the actions of viruses and tumor cells being active in the first three days after the onset of infection or antigen invasion (Grigore, M., 2003).

Purpose

In the context of the novel coronavirus outbreak, that question has gained urgency and also, thanks to recent research, emergent answers.

The purpose of this work is to highlight the influence of physical activity on the immune system. The latest science suggests that being fit boosts our immune systems, and that even a single workout can amplify and improve our ability to fight off germs (Nieman, D., Wentz, L., 2019*)*.

Objectives

We propose a brief overview of the current global phenomenon, the pandemic Corona virus, which affects the quality of people`s life from all around the world and how it can be combated with physical activity.

Content

Researchers (Simson, R., et all, 2015) explain how the acute exercise (maximum 60 min of effort at moderate intensity) represent an important immune system adjuvant to stimulate the highly active immune cell subtypes between the circulation and tissues. In particular, each exercise bout improves the antipathogen activity of tissue macrophages in parallel with an enhanced recirculation of immunoglobulins, anti-inflammatory cytokines, neutrophils and NK cells. Natural killer (NK) cells are lymphocytes of the innate immune system, vital components of human immunity involved in the elimination of microbe-infected cells. With near daily exercise, these acute changes operate through a summation effect to enhance immune defense activity and metabolic health. In contrast, high exercise training workloads, competition events, and the associated physiological, metabolic, and psychological stress are linked with transient immune perturbations, inflammation, oxidative stress, muscle damage, and increased illness risk.

New insights show how intense and prolonged exercise can cause transient immune dysfunction by decreasing immune cell metabolic capacity. People who have a moderate level of daily exercise have up to 40-50% fewer episodes of upper respiratory infection. Exercise is not beneficial, however, to any extent. Both sedentary lifestyle and chronic exercise decrease the immune defense capacity (fig.1). Studies suggest that the prolonged intense exercise causes immunosuppression, whereas moderate-intensity exercise improves immune function and potentially reduces risk and severity of respiratory viral infections. (Martin, S., Pence, B., Woods, J., 2009).

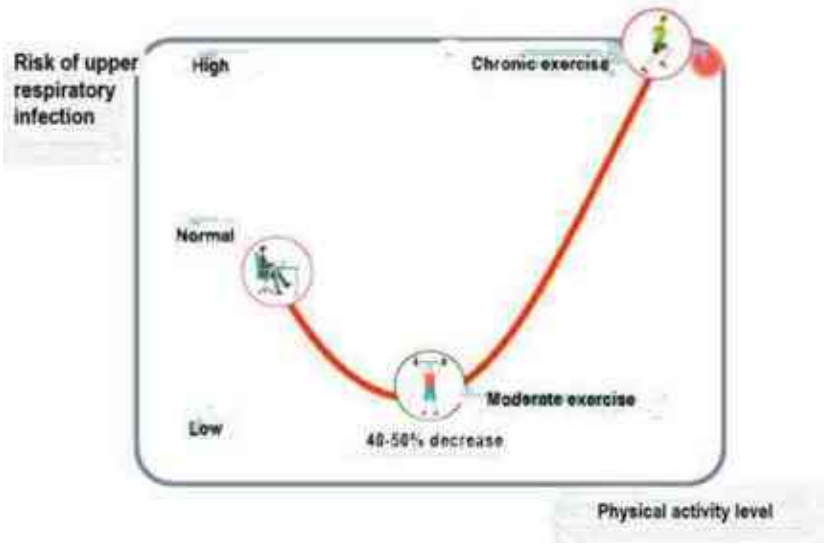

Fig. 1 The influence of the acute and chronic exercises in the immune system (Martin et all, 2009)

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Physical activity is an essential element in maintaining optimal health. And in the case of SARS-CoV-2 infection, studies show that the physical condition of the body can influence the evolution of the disease. In this case, the virulent pandemic occurs in the respiratory system with the significant deterioration of lungs activity.

The most recent study in this field reveals the importance of the enzyme named Extracellular Superoxide Dismutase (EcSOD) in the evolution of COVID-19.

Increasing the expression of the only extracellular enzyme with antioxidant properties (EcSOD) in striated muscle tissue or other organs, followed by redistribution of EcSOD to the lung tissue, could be an effective measure to prevent acute respiratory distress syndrome (ARDS) or to decrease its severity (Voinea, A., 2020). The same author believes that regular exercise could be effective in prevention and stimulation of enzyme production could be effective in the treatment of ARD associated COVID-19 (fig. 2).

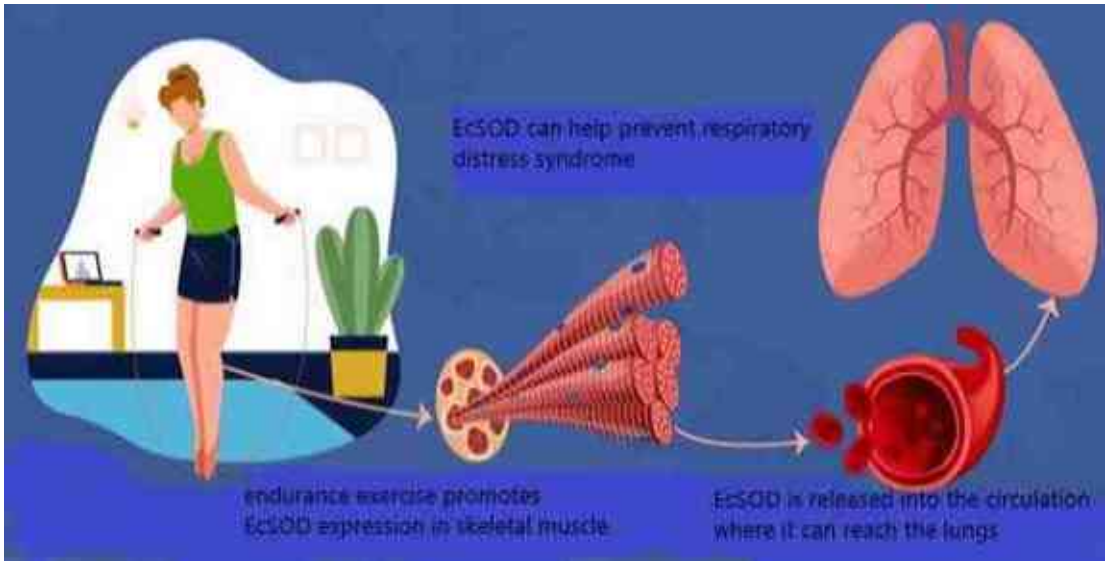

Fig. 2 EcSOD can prevent ARDS (Voinea, A., 2020)

This syndrome consists of severe inflammation of the lungs, which leads to acute respiratory failure and, consequently, lack of oxygenation of the whole body. ARDS is, according to studies to date, a leading cause of mortality in COVID-19. According to the CDC (US Center for Disease Control), ARDS affects between 3 and 17% of those infected with SARS-CoV-2 and between 65 and 85% of those hospitalized in intensive care.

Overall, EcSOD has recently emerged as a promising therapy for protection of vital tissues/organs under various disease conditions related to oxidative stress. Recent findings suggest that endurance exercise promotes EcSOD expression in skeletal muscle, the largest organ in our body, leading to elevated levels of EcSOD in other peripheral organs. This humoral function of EcSOD induced by exercise training may become effective therapeutics for many disease conditions (fig. 3).

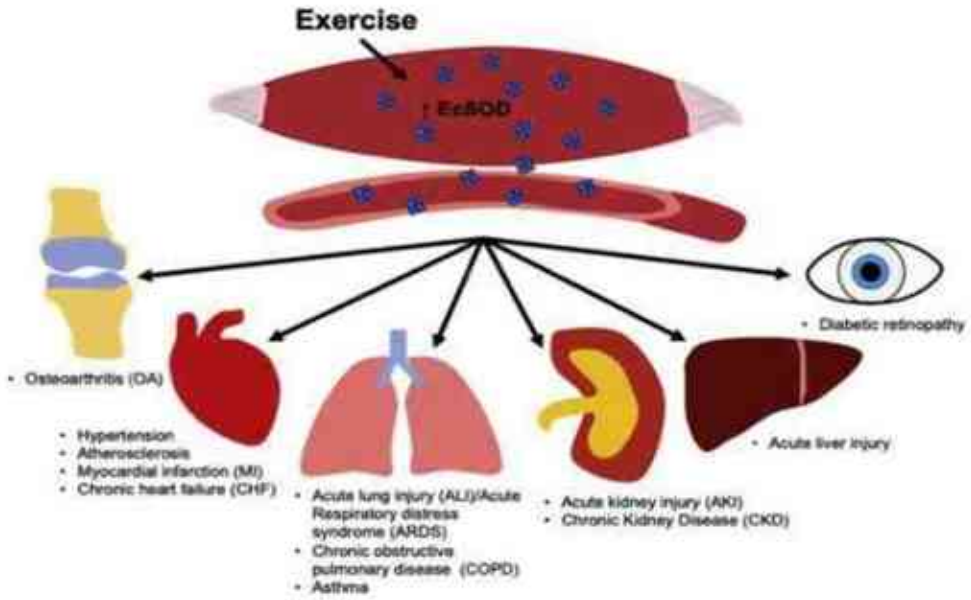

Fig. 3 EcSOD a molecular transducer of health benefits of exercise (Yan, Z., Spaulding, H., 2020)

The facts that EcSOD expression is promoted by endurance exercise in skeletal muscle and can be redistributed to other vital tissues to protect the target tissues against oxidative damage in various pathological processes strongly support exercise-induced EcSOD as an effective therapeutic intervention for prevention and treatment of numerous oxidative stress-related diseases.

In this direction, for the prevention of Sars-CoV-2 disease, the World Health Organization recommends 150 minutes per week of moderate-intensity physical activity or 75 minutes per week of vigorous physical activity. This level of physical activity has been associated with increasing life expectancy.

Also, for a healthy lifestyle we must take into account: a balanced diet, adequate hydration of body and respect the hours of sleep (7-9 hours). Some authors (Pelinski da Silveira et all, 2020) recommend that adopting mitigation practices is an essential strategy to reduce the risks related to the novel coronavirus infection. These interventions include the use of personal protective equipment, adherence to hygiene procedures and social isolation measures, as well as actions that lead to a healthier lifestyle, minimize stress factors and strengthen the immune system, such as regular physical activity.

Conclusions

Regular exercise training has a profound effect on the normal functioning of the immune system and has an overall anti-inflammatory influence mediated through multiple pathways. Also, several epidemiologic studies also suggest that regular physical activity is associated with decreased mortality and incidence rates for influenza and pneumonia.

Among other factors, the researchers are still analyzing how diet, exercise, age, psychological stress influence the body's immune response.

The question remains: how exercise interacts with our immune systems and whether we should plan to remain active, even as the incidence of new virus continues to grow? In this context, we are optimistic that researchers will discover the vaccine for this pandemic as soon as possible.

Among other factors, the researchers are still analyzing how diet, exercise, age, psychological stress influence the body's immune response. Although no direct link between the two has been discovered yet, there is

ample evidence of how these factors influence the proper functioning of the immune system, according to scientists at Harvard Medical School.

Social distancing measures taken to control the current COVID-19 pandemic have led to limited physical activity options. Many people are in quarantine or self-isolation at home. However, this should not lead us to adopt a sedentary lifestyle, which is associated with decreased immunity.

EcSOD is a perfect example of how we can use our understanding of the biological processes of exercise in medicine.

Studies indicate that the modulation of the immune response related to exercise depends on factors such as regularity, intensity, duration and type of effort applied (WHO, 2020).

Faced with the possibility of new pandemics by previously unknown microorganisms, without totally effective prevention measures, the host organism's capacity against infections becomes the most important line of defense, thus emphasizing the importance of investing in lifestyle habits that promote health and well-being, such as the practice of physical activity (Pelinski da Silveira et all, 2020).

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