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TECHNICAL TRAINING OF BEGINNER TENNIS PLAYERS THROUGH THE APPLICATION OF TENNIS 10 METHOD

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The doctoral thesis and summary can be consulted at the Library of the State University of Physical Education and Sport and on the website of ANACEC.

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INTRODUCTION

Actuality and importance of the problem addressed. Sport and sports training have evolved significantly over the past decades, adapting to new scientific discoveries, the specific demands of athletes and the lessons learned from the experience of top coaches. The implementation of sports training began with traditional, empirical methods based on the experience of coaches.

Thus, in the light of research and the experience of coaches, it is more and more obvious that the development of basic motor skills, such as coordination, balance, agility, etc. is of fundamental importance in tennis initiation. Thus, children are prepared to understand and subsequently apply techniques specific to the game of tennis. Louis Cayer, a world-renowned tennis coach, promotes a learning process based on games and varied activities for children aged 8-9. He claims that this method develops basic skills in a fun and interactive environment [20 p. 73]. The playful element is essential. Interactive games can make the learning process more fun and effective [16 p. 60]. Also, the equipment used must be adapted to the stage of growth and development of children to facilitate learning and prevent injuries. Slower balls and smaller, more maneuverable rackets are essential in the beginning stage of tennis [18 p 45].

Description of the situation in the field of research and identification of problems.

The situation in the field of research and identification of problems in training for tennis beginners in Romania seems to be characterized by certain deficiencies and lacks. First of all, there is an obvious problem related to the quality of the training process of children in their early stage of this sport. A notable aspect is the absence of adaptation by Romanian coaches of methods and means from abroad, where tennis has evolved from all points of view and continues to evolve. These coaches may not be aware of the latest trends and innovations in the field of tennis training for children or may be reserved in implementing them. This can lead to a lack of diversity in instructional strategies and an inability to keep abreast of the latest and most effective methods of teaching and developing tennis skills.

The purpose of the research: is to evaluate the effectiveness and impact of the Tennis 10 methods on the acquisition of specific motor skills in beginner tennis players, with an emphasis on the optimization of forehand and backhand shots among this category of players, compared to the effectiveness of classic/traditional methods, in the process of technical training.

Objectives of the work:

1. Theoretical analysis of the specific means of technical training in tennis at the beginner level;

2. Investigating the evolution of the physical and technical-tactical training of beginner tennis players;

3. Highlighting the methods that favour the learning of motor skills specific to the game of tennis;

4. Development of an experimental training program for tennis beginners with tennis 10 methods.

5. Experimental validation of the effectiveness in using materials adapted to the level of growth and development of tennis beginners.

Research hypothesis: the use Tennis 10 methods in the process of technical training of 8–9-year-old tennis players will lead to a rapid and significant improvement of their technical training, compared to traditional training methods. This hypothesis suggests that Tennis 10 methods will have a positive and significant impact on the learning and consolidation of the technique of execution of the basic shots of the tennis game at the level of tennis beginners. We hypothesize that the group of tennis beginners (experiment) who will benefit from the means and methods of Tennis 10 will show a greater improvement in their technical skills compared to the control group who will use traditional training methods.

Synthesis of research methodologies and justification of chosen research methods. In order to carry out the proposed research, not a single research method was used, but a complex of methods staged over time according to the evolution of our research, each of these methods having the role of objectively highlighting the results obtained. Thus, in chronological order, the specialist literature was studied, the tests and measurements used were selected and the questionnaire applied to tennis coaches was elaborated. Later this questionnaire was distributed and processed, the instructional-educational programs of the tennis clubs were analysed and theoretical documentation continued. In the third stage, the control and experimental groups were formed, the results of the tests and measurements selected in the ascertaining experiment were performed and interpreted, the training program was developed with tennis 10 methods, in accordance with the information obtained. In the last stage of the research, the formative experiment was carried out, which involved measurements and tests both at the beginning of the experiment and after the implementation of the proposed program. All the collected data were interpreted from a statistical point of view in dynamics as well as by reference to the scales of the specialized federation.

The novelty and scientific originality of the work: is reflected in the creative approach and the implementation of an experimental program with special attention paid to the somato-motor characteristics of tennis players. This experimental program is not only limited to theoretical analysis, but successfully integrates equipment, materials, courts and regulations specifically adapted to perfectly suit the needs and abilities of tennis athletes.

The theoretical significance of the work: takes shape in the light of the thorough research and analysis process carried out. Through a critical analysis of the specialized literature, the pedagogical observations made throughout the experiment and the interpretation of the data collected through the distributed questionnaire, a significant conclusion was reached. This shows that the majority of coaches involved in tennis are in favor of the "Tennis 10" method, but at the same time they also resort to traditional ones in the initiation process of this sport.

The applicative value of the work: resides in the practical substantiation and concrete demonstration of the benefits that the use of "tennis 10" method brings compared to the traditional method, regarding the initiation in tennis for children aged 8-9 years.

Research results: The experimental research program was applied in order to increase the yield of tennis training lessons, and the results of this research were implemented in the sports training process, organized at the NFS Braila Tennis Club. Also, the scientific results from our research have been exhibited in the presentations given during national and international symposia, conferences and scientific sessions. Also, these results issued in scientific publications in our specialized field, journals recognized both in Romania and in the Republic of Moldova.

The structure and volume of the thesis: The thesis includes annotation, introduction, 3 chapters, conclusions and recommendations, references– 167 sources, 22 appendices, 134 pages of basic text, 64 figures and 13 tables.

Keywords: tennis 10, tennis, technical training, physical training, age characteristics, training, methods, evaluation, children.

Summary of the sections of the thesis

The introduction provides a complex analysis of the process of initiating children into tennis, highlighting the evolution and importance of scientific research in this field. The following essential aspects are addressed: the relevance and importance of the research problem, the presentation of the current situation in the studied field, the delimitation of the problem, as well as the establishment of the research objectives.

Chapter one of the thesis, " The theoretical-methodical bases regarding the sports training of beginner tennis players ", explores methodological aspects related to the organization of the training process for beginner athletes.

In ***the second chapter*** of the thesis " Ascertaining study on the sports training level in beginner tennis players ", the methods of organization and conduct of the research are described and the ascertainable experiment is presented. All the measurements and tests performed for the somatic, physical and technical-tactical training evaluation are presented and described. The sociological questionnaire is thoroughly analysed, where specialists in the training of athletes, coaches of many players, answered the questions formulated by us, answers which were

analyzed and represented graphically. ***The third chapter*** of the thesis " Verification and experimental argumentation of the effectiveness in acquiring the technique of the tennis game by tennis 10 method ", contains five subchapters: the argumentation of the content of the experimental training program for beginner tennis players, one each for the evolution of somatic indicators, physical training and technical-tactical training and a chapter where the results of the means obtained by the control and experimental groups are compared with the R.T. F. scoring. In each of the three chapters, the dynamics of somatic growth and the development/consolidation of intragroup and intergroup physical and technical-tactical training are comparatively analyzed, the interpretations being made from a statistical point of view.

1. THE THEORETICAL-METHODICAL BASES REGARDING THE SPORTS TRAINING OF BEGINNER TENNIS PLAYERS

Methodological aspects regarding the organization of the training process at the beginner level

Tennis is a sport that requires agility, coordination, speed, physical and mental endurance, strength and concentration, being an excellent way to develop children's physical and cognitive skills. Introducing children to tennis at a young age, such as 5-6 years old, plays a crucial role in their sporting and personal development.

At age 8-9, tennis training focuses on developing basic technical skills such as forehands and backhands. It is also important to develop fundamental motor skills such as agility, hand-eye coordination, and balance [18, 21]. To keep kids interested and excited, tennis training for 8-9 year olds needs to be fun and interactive. Various games and activities can be used to develop skills specific to the sport practiced in the most enjoyable way [15 p. 38]. Coaches must possess a strong knowledge of the particularities of children's development and the specific aspects of tennis at this age. At the age of 8-9 years, principles of physical and technical skill development can be applied, according to Lloyd et al. [21 p. 37]. Modern training methods and principles allow children to develop their technical and physical skills more effectively, increasing their chances of becoming successful tennis players. The scientific approach to training helps prevent overuse and injury, ensuring that young tennis players grow and develop healthily through tennis, while maintaining their enjoyment and passion for the sport.

Tennis teaches children respect for rules and discipline, important aspects for their character development. Studies show that children who play sports learn responsibility and respect.

These approaches reflect the current trends in introducing children to tennis and are supported by the experience and teachings of famous coaches in the sport. Integrating these

principles into the development process of young players can help shape future tennis champions.

In conclusion, we can say that today's tennis training has greatly lowered the age at which children's training begins. If in the past the age of children who started practicing tennis was around the age of 7-9, nowadays, this sport can be started between the ages of 4 and 7.

Sports training from initiation to high-performance sport represents a global, interconditioning process based on several legalities of a psychological, pedagogical, cognitive, volitional, social, etc. order, all of which are interdependent, being directed by one or more specialists.

The development of sports activity, the increase in the number of local and international competitions have determined the increase of theoretical and methodological concerns regarding the training of those engaged in the practice of performance sports. The positive effects of playing sports on health, as well as the establishment of collaborative and friendly relationships between people have become incentives that attract young people to these activities.

The term training comes from the English "coaching", which appeared in the 16th century and originally referred to a method of transport, especially a horse-drawn carriage. This term derived from the Hungarian word "kocsi", which meant a carriage from the village of Kocs, a place known for producing high-quality carriages [25]. The name of this small village ended up being directly associated with traveling from one place to another in a fast and efficient way. The double meaning of the word "coach" - as a carriage and a sports coach - is a metaphor that illustrates for certain people, coaches, the phenomenon of identifying themselves as a means of transport of others [clients - athletes], towards their goals with the greatest chances successfully, with the greatest speed and in an economical manner.

Over time, the term "coaching" has moved from its literal transportation context to metaphorically represent the process of guiding and supporting individuals in their personal and professional development.

The first use of the term "coach" in the sense of an instructor or coach appeared around 1830 in Oxford University slang to define a tutor who looked after a student for an exam. The first use of this term with the meaning of sports coach is mentioned in 1861. [26]

More recently, "coaching" began to be known in the world of sports thanks to Tim Gallwey, the author of the work entitled: "The Inner Game of Tennis", where "inside" refers to the mental state of the player. He states that, “what happens inside the player is more important than what happens on the field. Thus, Gallwey laid the foundation stone in the world of modern coaching, stating that “coaching consists in releasing a person's potential in order to enable him to develop his abilities [13 p 206].

In the specialized literature, the problem of sports training was analyzed in different events, this process being called sports training. The notion of sports training is found in several local and foreign authors, who generally represent the same thing, the only difference being the way of describing this process [1, 4, 7, 8, etc].

Thus, Kuramshin Yu. [14], as well as Kholodov Zh.K., Kuznetsov V.S. [15] argue that sports training is an organized pedagogical process of perfecting sports skills, directed towards the development of certain qualities, abilities and motor skills, the accumulation of theoretical knowledge, with the ultimate goal of achieving performance results in a chosen sports event.

In the explanatory dictionary of the Romanian language, training is defined as a process of systematic training, physical, mental, etc., in order to achieve sports performances. [28]

Letzeler, quoted by R. Schonborn, provides a clear definition of training, stating that it is a process aimed at optimizing, maximizing or stabilizing psycho-physical performance. This process involves the presentation of training contents using appropriate methods, ordered according to the principles of sports training and focused on predefined training objectives [11, p. 117].

In the same context, Carl, cited by Weineck [21, p. 15], defines sports training as a complex action that has a systematic and specific effect on the level of sports performance and the optimal performance capacity in training and competition conditions.

Sports training, as an integral part of sports activity, is characterized by the social organization of the actions carried out. Thus, the principles of organizing, planning, deciding, regulating and evaluating should serve as the foundation for successfully managing and conducting training.

Dragnea et al. [6, p. 155] define sports training as a complex process, carried out systematically and gradually, aimed at adapting the athlete's body to intense physical and mental efforts required for participation in competitions.

In a more general definition, sports training, derived from the French term "entraînement," represents a pedagogical process with the aim of preparing and adapting the human body to the demands of physical and mental efforts imposed by competitions [22].

In the specialized literature, there is a consensus among established authors regarding the main objective of sports training, which is to increase performance capacity [2,3,17,19]. Within this major objective, three categories of objectives can be identified: psychomotor, cognitive and psychological.

The psychomotor objectives refer to various performance conditioning factors [V, F, R and their combinations] to the coordinative qualities, which play a major role in learning techniques in sports. Educating psychomotor skills is a main goal of sports training, especially at

the initiation stage. By educating/developing motor qualities, Gh. Carstea [23, page 85] understands the special training process that can accelerate the development of basic motor quality indices [speed, skill, resistance and strength] and specific motor qualities, primarily involved in the practice of certain sports. Abilities (ability - lan. Engl.) define the level of mastery in a sporting task and constitute the higher level of psycho-motor skills [10,12,24]. The author E. Fleischman cited by Manno R. [9, p74] shows that it is not wrong to say motor qualities or conditional and coordinative motor skills.

2. ASCERTAINING STUDY ON THE SPORTS TRAINING LEVEL IN BEGINNER TENNIS PLAYERS

Organization and conduct of research

The established research methods were applied in the field of physical education and sports in order to determine and compare the effectiveness of the young tennis players training by Tennis 10 methods and traditional tennis during one year of training,through which we expected to obtain concrete data regarding the effectiveness of one of the two methods.

The research activity was carried out on a group of 40 subjects, girls aged 8-9, tennis players in the initiation phase, who train in two different clubs of Braila, respectively the Omega Braila Tennis Club and the NFS Braila Club. The 40 subjects formed two groups of 20 tennis practitioners each, the control group which trained according to the training plan of the Omega Braila club, through traditional tennis methods, and the experimental group which benefited from methods adapted from Tennis 10 within the club NFS Braila based on an experimental program. All research subjects benefited from the same workload, namely three training sessions per week of 60 minutes each. All tests, both initial and final, were held at the Bursagrirom tennis complex, located in Braila, on a tennis court with regular dimensions.

At the same time, 40 athletes from 6 tennis clubs were analyzed from a somatic, physical and technical-tactical point of view. From Braila, 8 girls were selected the TC Venus Braila club, 5 girls from CS Spartacus Braila and 6 girls from CS Valmet Braila. From Galati, the CS Atlas Galati club 7 girls, from Sports Club Dacia Galati 8 girls and from CSM Dunarea Galati 6 girls. The athletes were selected according to two criteria: to train using the classical method and to be aged between 8 and 9 years. These sportswomen were part of the group for the preliminary study regarding the level of training in this age category.

The pedagogical experiment was carried out during two stages of the experiment - the ascertaining experiment with the group of female athletes and the formative experiment with the two groups, respectively the control group and the experimental group.

The research was carried out in four stages, as follows:

Stage I, (November 2018 – August 2019) had as main objectives: approving the theme, drawing up the activity plan, selecting the tests that will be used for conducting the experiment, establishing the sociological survey, studying the specialized literature.

Stage II (September 2019 - September 2020) involved the analysis of the instructional-educational programs of the specialized sports clubs with a tennis profile, the application of the questionnaires addressed to the specialized coaches elaborated previously, the analysis of the sources of the specialized literature.

Stage III (October 2020 – October 2021) involved the following actions:

- establishing the ascertaining group (40 girls)
- creation of experimental (20 girls) and control (20 girls) groups;
- conducting the ascertaining experiment, which aimed at verifying the level of technical, tactical and physical development of the athletes included in the experiment and work within the 6 selected clubs;
- the development of the experimental program and the application of the training program with Tennis 10 methods, the preparation and observance of the annual plan, according to the training methodology for the experimental group:
- statistical-mathematical interpretation, comparison of the data obtained from the tests performed in the ascertaining stage and their graphic representation.

Stage IV (November 2021 - June 2022) included the application of the final tests in order to assess the level of physical capacity and the development of technical-tactical training, during which the following were carried out:

- the processing, statistical interpretation and graphic representation of the evolution of each group in the research, based on them the conclusions of the basic experiment were formulated;
- structuring and elaboration of the scientific content of the thesis.

During the entire duration of the basic pedagogical experiment, in the experimental group the activity was carried out based on the program and the proposed development plan, which includes Tennis 10 methods, selected according to the objectives and the goal pursued.

Evaluation of the level of somatic indices in beginner tennis players.

Development is a process of cellular differentiation, reflected into functional changes and qualitative improvements, marking a refinement and adaptation of the apparatuses and systems in the body, a complex evolution and their coordinated integration into a unitary system.

These processes are conditioned by the action of internal and external factors. Among the external factors, motor activity, physical exercise, physical and mental effort, in some circumstances can direct growth and development.

Table 1 Results of anthropometric indices in the ascertaining group (n=40)

No. crt.	Anthropometric measure	Statistical indicators Ascertaining group (n=40)			Average values girls 8-9 years
		$\bar{x}$	d	cv	
1	Height (cm)	134,47	5,12	3,81	133,15
2	Body mass (kg)	34,82	3,01	8,64	33,96
3	Arm span (cm)	134,25	4,82	3,59	133,15
4	Body mass index (pt.)	18,89	2,14	11,33	18,5

Following the analysis and interpretation of the measured somatic indicators we can state that in general the two groups have significant similarities in terms of height, body weight and BMI. All these statistical indicators provide information on the variability and dispersion of the data in the two groups in terms of anthropometric measurements. At the same time, the comparison with the national values places the results averages of the beginner athletes close to them.

Analysis of experts' opinions regarding the training system for beginner tennis players

Currently, in children's tennis, a series of scientific researches are being undertaken, with the aim of optimizing the technical training of aspiring athletes, applying various strategies, methods and means for this. In the contemporary training system for young tennis players, improvements are constantly being made in terms of materials and equipment, trying to make them correspond to the particularities of their age.

For this study, we applied a questionnaire with 13 questions, each question 3 answer options, to a number of 40 technicians of different ages and gender in Romania, working in clubs and centers for children and juniors.

The 40 respondents are from all areas of Romania, aged between 19 and 50 years, with experience between 1 and 25 years (15 coaches up to 10 years and 25 coaches over 10 years of experience). Also, out of the total of 40 respondents, 7 train at the beginner level, 2 at the advanced level, 1 at the professional level and the majority, i.e. 30 coaches work at the beginner and advanced level. Most respondents are from Bucharest, Braila, Brasov, Targu Jiu and Constanta and represent a percentage of 75%, i.e. 30 coaches.

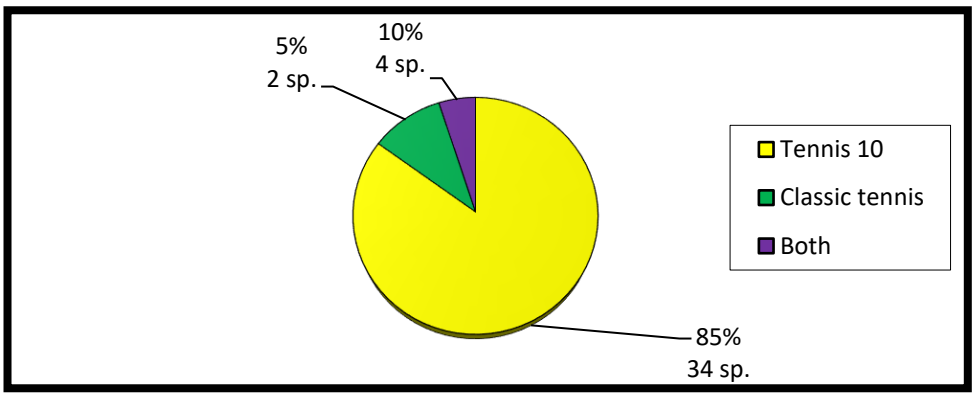

Fig. 1. The share of the answers to question no. 3

For the question **"Which methods of technical training are preferred by beginner children: those from tennis10 or those from classic tennis.?"** was answered as follows: 34 specialists (85%) consider the tennis 10 method as the preference of beginners, 4 specialists (10%) considered that classical methods are preferred by children, and 2 specialists (5%) agreed with the idea that both categories of methods are equally influencing the preferences of beginners (fig. 1).

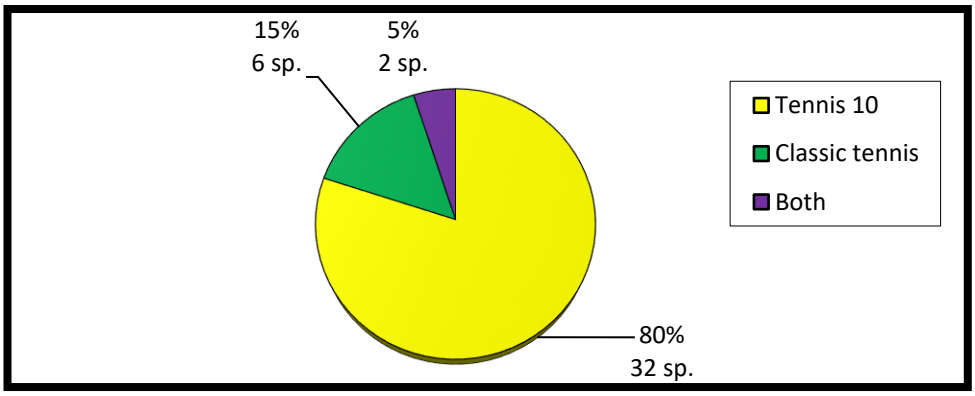

Fig.2 The share of answers to question 9

The question **"Is the simplified regulation (shorter matches) of the Tennis 10 concept an advantage in accommodating children with the competitive system?"** generated the following answers: 32 specialists (80.00%) answered affirmatively, namely that the more simplified rules of tennis 10 are able to lead to the accommodation of children with the general aspects of the competition, 7 specialists (17.50 %) answered negatively, namely that this regulation does not positively influence children's accommodation with competitive disputes, and 1 specialist (2.50%) assessed that the Tennis 10 regulation is not necessarily an advantage in this regard. (fig. 2.). Following the design, distribution and analysis of the questionnaire, we can state that there is a general acceptance of this concept in the tennis coaching community. Approximately 92.50% of specialists believe that Tennis 10 positively favors the attraction of children to tennis, thus underlining the importance of this method in attracting young people to this sport. [28, 31, 33]

Analysis of motor training indices in the ascertaining group

The performances achieved by elite athletes highlight their superior athletic training. At the age of the subjects in the present paper, general physical fitness has the greatest ratio. The physical training of tennis players includes all motor qualities, in their forms of manifestation, but also their combinations, for a good athletic development.

Table 2 The results of the evaluation of motor training indices in the ascertaining group (n=40)

No. crt.	Motor tests	Statistical indicators			Scale R.T.F
		Ascertaining group (n=40)			
		x	d	cv	
1	SR10 m (sec)	3,03	0,45	15,08	2,09
2	TMM on the right (cm)	428,95	19,49	4,54	599
3	TMM on the left (cm)	410,07	29,85	7,28	599
4	TMM UP (cm)	352,05	20,03	5,68	399
5	Fan (sec)	22,08	1,59	7,2	18,51
6	Obstacle Hexagon (sec)	12,53	0,85	6,81	11,01
7	T" reaction (sec)	0,21	0,02	10,64	0,04
8	Standing LJ (cm)	136,57	5,62	4,11	148

In the tests that analyse the strength, both the specific and the general, we observe close values of the averages obtained by the athletes of the ascertaining sample but poorly from the point of R.T. F. scale view. This aspect is due to the fact that the evaluated sportswomen are still in the initial phase of training and the R.T F. scale has the 12-14 years age category as the first echelon.

In the tests that analyze the speed, both the specific and the reaction or execution, we observe close values of the averages obtained by the athletes of the ascertaining sample but poorly from the point of R.T,F. scale view. This aspect is due to the fact that the evaluated sportswomen are still in the initial phase of training and the R.T.F. scale has the 12-14 years age category as the first echelon.

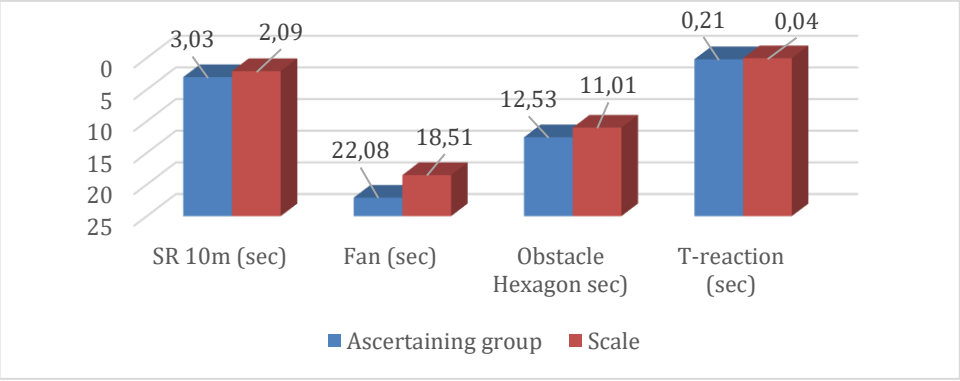

Fig.3. Graphic representation of the results obtained by the ascertaining sample in the speed tests.

Based on the assessment of motor training, we can conclude that the sportswomen in the ascertaining sample obtained similar results in most of the motor tests, with very small differences between them. They showed relatively low variation and moderate homogeneity in motor performance. Small differences observed in some tests are not statistically significant and can be attributed to natural variability in athlete performance.

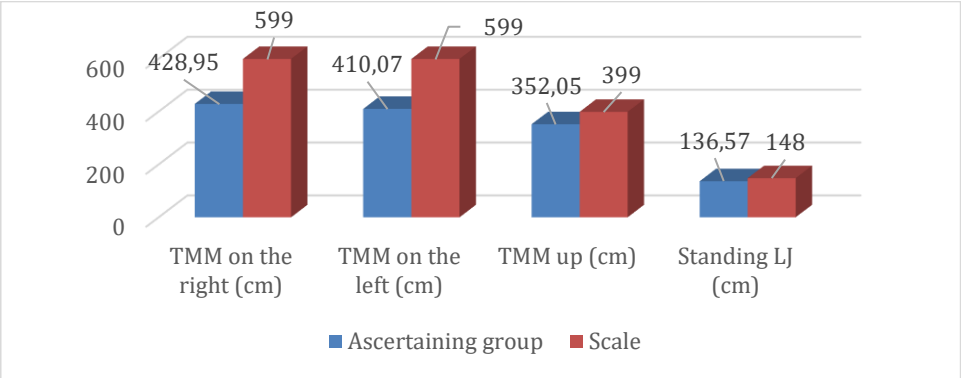

Fig.4. Graphic representation of the results obtained by the ascertaining sample in the strength tests.

Analysis of the indices of technical-tactical training of beginner tennis players

The analysis of technical-tactical training was evaluated through a group of 5 tests. The most eloquent assessment for movement accuracy is the expert method through which the observable motor behaviour of the little tennis players was followed, namely the demonstration of the execution of the forehand and backhand shots. All executions were watched and scored by 5 specialists based on specially designed evaluation criteria. They independently evaluated the degree of mastery of the technique of the two shots.

Table 2 The results of the indices evaluation of technical-tactical training in the ascertaining sample (n=40)

No. crt.	Technical-tactical tests		Statistical indicators Ascertaining sample (n=40)		
			$\bar{x}$	d	cv
1	Expert method (pts.)		1,78	0,09	5,43
2	Test 1 forehand	Length (pt.)	15,4	2,02	13,13
		Ball spins (%)	25,75	5	19,44
		Racket speed (km/h)	29,95	2,79	9,32
3	Test 1 backhand	Length (pt.)	13,67	1,6	11,75
		Ball spins (%)	23,75	4,9	20,64
		Racket speed (km/h)	28,45	2,71	9,55
4	Test 2 forehand	Direction (pt.)	15,07	1,55	10,34
		Ball spins (%)	25,25	5,05	20,02
		Racket speed (km/h)	28,9	3,05	10,56
5	Test 2 backhand	Direction (pt.)	14,17	1,15	8,12
		Ball spins (%)	22,25	4,22	19
		Racket speed (km/h)	26,25	4,96	18,89

When testing the ability to hit long balls (Test 1.), forehand shot, the group tested in the ascertaining experiment obtained an average of 25.75% ball spins, a standard deviation of 5% and a coefficient of variability of 19.44%. These results provide the premise of a group with a high homogeneity among the sportswomen who form it. Regarding the maximum scale, there is a difference of 74.25% compared to it, a fact that suggests a deficient preparation from a tactical point of view, more precisely from the point of sportswomen's ability view in order to print the ball with as many spins as possible forehand shots (fig. 5).

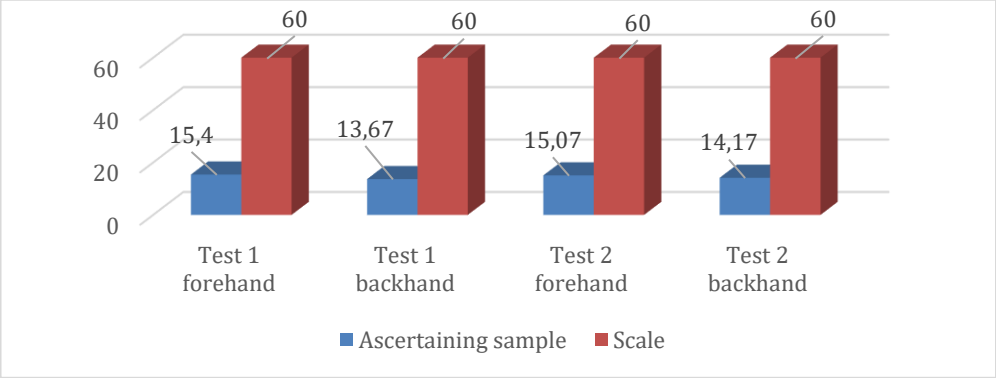

Fig. 5-Graphic representation of the results obtained by the ascertaining sample during tactical training.

When testing the ability to hit balls both from the point of length or side view (Test 2.), with backhand shot, the group tested in the ascertaining experiment obtained an average of 22,25% ball spins, a standard deviation of 4.96% and a coefficient of variation of 18.89%. These results provide the premise of a group with a high homogeneity among the sportswomen who form it. Regarding the maximum scale, there is a difference of 77.75% compared to it, a fact that suggests a deficient preparation from a tactical point of view, more precisely from the point of ability of sportswomen view in order to print the ball with as many spins as possible with the backhand shot (fig. 5).

In the light of this preliminary research, we draw the following significant conclusions:

1. The hypothesis that coaches have different perspectives on the approach to tennis training for 8- to 9-year-olds, including the introduction of the Tennis10 method, was confirmed. The variation in opinion underscores the diversity in training approaches for this age group.

2. We also confirm the hypothesis that coaches perceive the Tennis10 method differently. The divergent opinions reflect the diversity in the interpretation of the effectiveness of using the means of this training method.

3. Following this preliminary research, the idea of the need for further research to evaluate the effectiveness of the Tennis 10 method in the development and evolution of children in the specific context of tennis is emerging. [29,30]

3. VERIFICATION AND ARGUMENTATION OF THE EFFECTIVENESS IN ACQUIRING THE TENNIS GAME TECHNIQUE BY TENNIS 10 METHODS

Argumentation of the beginner tennis players' experimental training program content by applying the tennis 10program.

In the content of the experimental group's activity, exercises on suitable sized fields, slower balls and rackets suitable for age and size were used as means. The main objective since the first hour was the realization of bilateral game with ball changes and forehands, backhands, serve and return, even if the latter could be executed irregularly by letting the ball touch the court before hitting it.

In the other group, the control group, the learning activity had a classic trajectory, using normal balls, the standard tennis court and rackets with a maximum length of 68.58 cm. In this group, the priority was to acquire tennis technique as quickly as possible, the actual point game being postponed until later. At the same time, physical training was not specifically addressed in the control group, considering that at this age it is not a main factor that should be taken into account.

Both groups had 3 training sessions per week of one hour each in the time interval 17-18 the experimental group and 18-19 the control group. The trainings were held on Monday, Wednesday and Friday specifying that the experimental group used Monday only for the development of technical training by means specific to the game of tennis. (Appendix 18) Wednesday was the day reserved for the development of technical, tactical, physical and mental training through games such as: King of the field, Penitentiary, Americana or Bingo. (Appendix 19) Small tournaments were organized on Friday, wanting to put into practice the point game and at the same time the actions specific to the competitive game, such as learning the score and the rules. The monthly schedule of sports training components throughout an annual training cycle, at the level of these young tennis players, is presented in Table no. 3. The physical factor of training is given 50 hours as follows: 20 hours (12.82%) to general physical training and 30 hours (19.24%) to special physical training. Physical training, in the form of the two sides (general and specific), had different shares throughout the entire annual training cycle.

In terms of physical training, a significant allocation of 50 hours is noted, in which the priority is specific physical training with 30 hours compared to only 20 allocated for general physical training, highlighting the commitment to the special requirements of tennis and compliance with the prescriptions of sports training for this age. The objectives of the physical training consisted in the development of a general physical training adapted to the age and requirements of tennis and the improvement of motor qualities specific to tennis.

Table 3. Experimental volume programming of training factors

No. crt.	The content of the training	TOTAL
1	General physical training	20 (12,82%)
2	Specific physical training	30 (19,24%)
3	Technical training	50 (32,05%)
4	Tactical training	10 (6,42%)
5	Psychological training	7 (4,48%)
6	Theoretical training	15 (9,61%)
7	Training matches	24 (15,38%)
TOTAL		156 (100%)

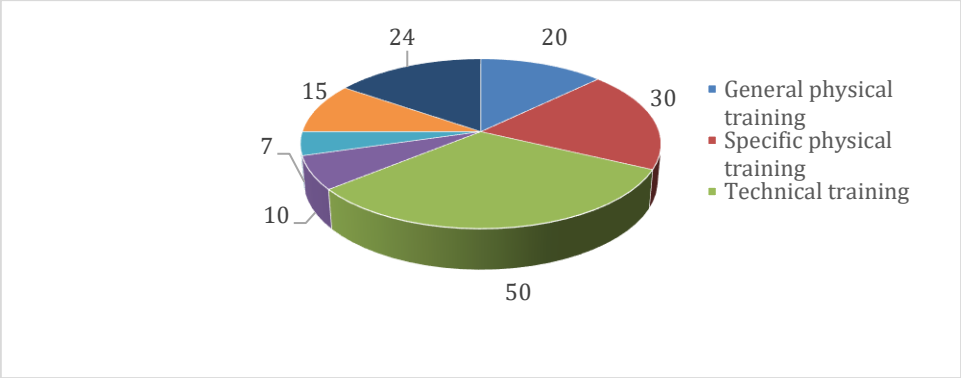

Fig 6 - Graphical representation of the training factors distribution.

Analyzing the monthly programming of sports training components for young tennis players within the annual training cycle, a balanced distribution of resources is observed with special attention paid to physical and technical training, in accordance with the specific requirements of tennis practiced at this age.

The technical component of the training had a structured content of 50 hours (32.05% of the total training hours), at the beginning of the cycle with a smaller share, during which it increased quantitatively, but being included in the methodological guidelines of the respective stage of training and taking place in parallel with physical training.

The objectives of the physical training consisted in the development of a general physical training adapted to the age and requirements of tennis and the improvement of motor qualities specific to it.

For the technical training, we aimed to develop all the technical elements of tennis, especially the forehand, backhand shots, the volley, the smash, the serve and the return.

Table 4. Programming activities for a calendar year

MONTH	OCT.			NOV.			DEC.			JAN.			FEB.			MARCH.			APR.			MAY			JUNE			JULY.			AUG.			SEPT.		
	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3	A1	A2	A3
S1	5	7	12	2	4	6	7	2	4	4	6	1	1	3	5	1	3	5	5	7	2	3	5	7	7	2	4	5	7	2	2	4	6	6	1	5
S2	12	14	19	9	11	13	14	9	11	11	13	8	8	10	12	8	10	12	12	14	9	10	12	14	14	9	11	12	14	9	9	11	13	13	8	12
S3	19	21	16	16	18	20	21	16	18	18	20	15	15	17	19	15	17	19	19	21	16	17	19	21	21	16	18	19	21	16	16	18	20	20	15	19
S4	26	28	23	23	25	27	28	23	25	25	27	22	22	24	26	22	24	26	26	28	26	24	26	28	28	23	25	26	28	23	23	25	27	27	22	26
S5			30	30				30				29				29	31				30	31								30	30				29	
Methods and means																																				
PHYSICAL		V		V							V		V				V			V			V			V					V			V	
		C		C							C		C				C						C			C								C	
								F					F							F						F			F					F	
								R			R		R				R						R						R		R			R	
TECHNICAL	DR.	DR.-STG.	GAME	.DR.	DR.-STG	GAME	STG.	DR.-STG.	GAME	DR.	DR.-STG.	GAME	DR.	DR.-STG.	GAME	STG.	DR.-STG.	GAME	DR.	DR.-STG.	GAME	STG.	DR.-STG	GAME	DR.	DR.-STG.	GAME	DR.-STG.	DR.-STG.	GAME	DR.-STG.	DR.-STG.	GAME	DR.-STG.	DR.-STG.	GAME
TACTIC	CONST.	CONST.	CONST.	CONST.	CONST.	CONST.	CONST.	LENGTH	CONST.	LENGTH	CONST.	DIRECTI	DIRECTI	CONST.	DIRECTI	CONST.	LENGTH	DIRECTI	CONST.	LENGTH	DIRECTI	DIRECTI	CONST.	CONST.	LENGTH	DIRECTI	LENGTH	DIRECTI	DIRECTI	CONST.	LENGTH	CONST.	DIRECTI	LENGTH	DIRECTI	DIRECTI
PSYCHOLOGICAL	CONSTANT																																			
THEORETICAL	CONSTANT																																			
W	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Tactical training followed the following pattern: consistency, length (depth of balls), direction, force of shots and effect applied to the ball. The other components of the training content had the following schedules: psychological training benefited from a volume of 7 hours (9.61%), and theoretical training had a volume of 15 hours (9.61%).

The actual implementation of the means and methods took place over a period of 12 months, with trainings 3 times a week of one hour each. Thus, 155 hours of training took place, spread over 36 weeks and 155 days

Evaluation of physical training indices at the final stage of the formative experiment

To perform the physical training analysis, a group of 8 tests was used, respectively, 10 m speed run, throwing the medicine ball on the right side, on the left side and up, the fan, the hexagon, the "T"-reaction and standing long jump. All of these are specific tests that apply to tennis players.

Table 5. Results of the comparative analysis of motor training indices in the experimental and control groups (n=20)

No. crt.	Motor tests	Groups and statistical indicators	Statistical indicators			
			TI $\bar{x} \pm m$	TF $\bar{x} \pm m$	t	P
1	Speed Running 10 m (sec)	EG	2,81 ± 0,93	2,49 ± 0,07	13,14	<0,001
		CG	2,71 ± 1,19	2,49 ± 0,11	6,61	<0,001
		t	0,42	1,77	-	-
		P	>0,05	>0,05	-	-
2	Throwing the medicine ball on the right side(cm)	EG	432,8 ± 6,6	466,6 ± 6,3	32,18	<0,001
		CG	431,95 ± 5,46	438,5 ± 5,03	11,88	<0,001
		t	0,72	3,483	-	-
		P	>0,05	<0,01	-	-
3	Throwing the medicine ball on the left (cm)	EG	407,3 ± 4,18	429,85 ± 3,63	13,99	<0,001
		CG	410,2 ± 6,11	418,9 ± 6,5	11,58	<0,001
		t	0,39	1,47	-	-
		P	>0,05	>0,05	-	-
4	Throwing the medicine ball up (cm)	EG	355,5 ± 4,28	373,8 ± 4,26	21,78	<0,001
		CG	355,6 ± 4,69	361,5 ± 4,99	9,59	<0,001
		t	0,16	1,87	-	-
		P	>0,05	>0,05	-	-
5	The fan (sec)	EG	22,3 ± 0,25	19,77 ± 0,2	19,77	<0,001
		CG	22,2 ± 0,31	21,04 ± 0,29	12,65	<0,001
		t	2,33	3,54	-	-
		P	>0,05	<0,01	-	-
6	Hexagon obstacle (sec)	EG	12,45 ± 0,2	10,82 ± 0,14	10,6	<0,001
		CG	12,4 ± 0,18	11,83 ± 0,17	11,95	<0,001
		t	0,16	4,38	-	-
		P	>0,05	<0,001	-	-
7	„T" reaction (sec)	EG	0,20 ±0	0,18 ± 0	12,04	<0,001
		CG	0,21 ± 0	0,2 ±0	10,9	<0,001
		t	1,5	2,73	-	-
		P	>0,05	<0,05	-	-
8	Standing LJ	EG	136,5 ± 1,21	146,4 ± 2,86	17,89	<0,001
		CG	138,05 ± 1,02	142,2 ± 1,02	15,14	<0,001
		t	1,24	0,74	-	-
		P	>0,05	>0,05	-	-

Note: EG – Experimental group, n= 20;CG - Control group, n= 20

P	0,05	0,01	0,001
f= 19	2,093	2,861	3,883
f= 19	2,093	2,861	3,883
f= 40	2,021	2,704	3,551

As part of testing the level of physical training, in the test "Speed running on distance of 10m", the arithmetic average obtained by the experimental group was 2.81 seconds at the initial test and 2.49 seconds at the final test, resulting in a progress of 0.32 seconds. In the control group, the average from the initial testing was 2.71 seconds and at the final testing 2.49 seconds, resulting in an average improvement of 0.22 seconds.

In the process of testing the level of physical training, in the "Throwing the medicine ball on the right side" test, the arithmetic average obtained by the experimental group was 432.8 cm at the initial test and 466.6 cm at the final test, resulting in a progress of 33.8 cm.

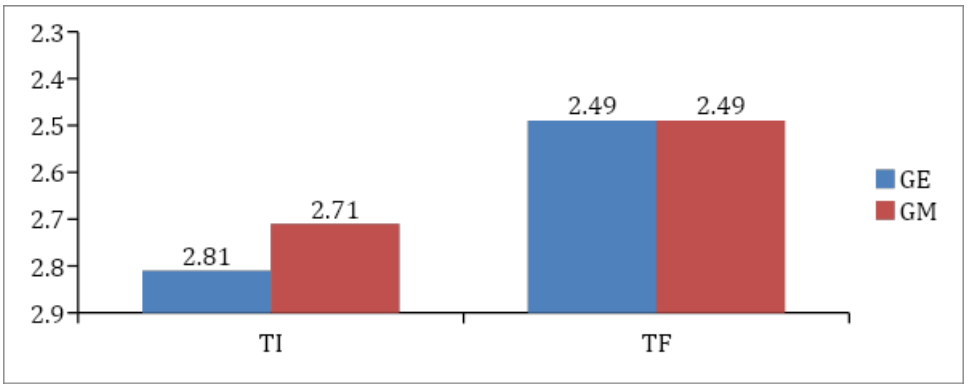

Fig.7 Comparative graph of test "Speed running *10m(s) "(s)*

In the control group, the average from the initial testing was 431.95 cm and at the final testing 438.5 cm, resulting in an improvement of the results on average of 6.55 cm.

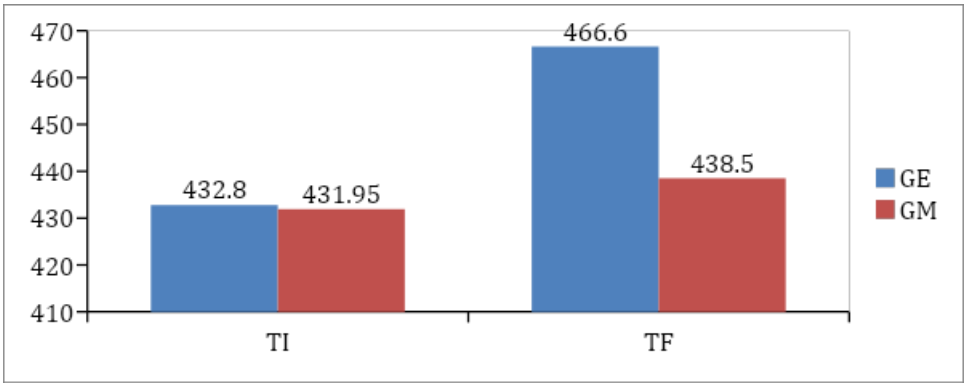

Fig. 8 Comparative graph of test "*Throwing the medicine ball on the right" (cm.)*

After analyzing the results, we can confirm that using tennis 10 methods, mainly games with throws, adapted rackets and the use of the point game from the first training, we will obtain superior results for the upper limbs strength specific to forehand and backhand shots.

Table 6 Results of the comparative analysis of the technical-tactical training indices in the experimental and control groups (n=20)

No. crt.	Technical-tactical tests		Groups and statistical indicators	Statistical indicators			
				TI $\bar{x} \pm m$	TF $\bar{x} \pm m$	t	P
1	Experts Method (pts.)		EG	1,76 ±0,02	3,13 ± 0,02	41,19	<0,001
			CG	1,8 ± 0,01	2,31 ± 0,02	13,57	<0,001
			t	2,31	22,11	-	-
			P	>0,05	<0,001	-	-
2	Test 1 Forehand	Length (pct.)	EG	16,15 ± 0,4	22,7 ± 0,52	16,91	<0,001
			CG	14,2 ± 0,37	16,95 ± 0,44	12,06	<0,001
			t	3,53	8,32	-	-
			P	<0,01	<0,001	-	-
		Ball spins (%)	EG	25,5 ± 1,06	39,5 ± 1,53	16,6	<0,001
			CG	25,5 ± 1,06	33,5 ± 1,31	5,81	<0,001
			t	0	0	-	-
			P	>0,05	>0,05	-	-
		Speed racket (km/h)	EG	30,65 ± 0,61	36,8 ± 0,56	22,43	<0,001
			CG	29,6 ± 0,57	33,45 ± 0,56	16,61	<0,001
			t	1,27	4,16	-	-
			P	>0,05	<0,001	-	-
3	Test 1 Backhand	Length (pct.)	EG	13,7 ± 0,38	19,55 ± 0,48	11,96	<0,001
			CG	13,55 ± 0,39	16,55 ± 0,41	15,63	<0,001
			t	0,27	4,65	-	-
			P	>0,05	<0,001	-	-
		Ball spins (%)	EG	23 ± 1,05	39 ± 1,9	11,96	<0,001
			CG	24,5 ± 0,39	31 ± 1,23	4,95	<0,001
			t	0,96	3,52	-	-
			P	>0,05	<0,01	-	-
		Speed racket (km/h)	EG	29,10 ± 0,62	35,85 ± 0,77	22	<0,001
			CG	28,45 ± 0,6	32,35 ± 0,62	13,48	<0,001
			t	0,78	3,52	-	-
			P	>0,05	<0,01	-	-
4	Test 2 Forehand	Direction (pct.)	EG	15,1 ± 0,33	29,2 ± 0,44	29,45	
			CG	14,8 ± 0,42	17,35 ± 0,47	16,61	<0,001
			t	0,55	7,01	-	-
			P	>0,05	<0,001	-	-
		Ball spins (%)	EG	26 ± 1,12	41,5 ± 1,81	10,1	<0,001
			CG	26 ± 1,12	33 ± 1,27	5,48	<0,001
			t	0	3,82	-	-
			P	>0,05	<0,01	-	-
		Speed racket (km/h)	EG	29,5 ± 0,63	37,15 ± 0,63	25,37	<0,001
			CG	29,7 ± 0,63	32,6 ± 0,68	10,72	<0,001
			t	0,22	4,88	-	-
			P	>0,05	<0,001	-	-
5	Test 2 Backhand	Direction (pct.)	EG	14,15 ± 0,33	21,4 ± 0,36	24,32	<0,001
			CG	14,15 ± 0,33	17,3 ± 0,39	14,25	<0,001
			t	0	7,65	-	-
			P	>0,05	<0,001	-	-
		Ball spins (%)	EG	23,5 ± 1,09	38 ± 1,71	9,44	<0,001
			CG	26 ± 1,12	33 ± 1,05	6,65	<0,001
			t	1,59	2,48	-	-
			P	>0,05	<0,05	-	-
		Speed racket (km/h)	EG	28,6 ± 0,68	36.1 ± 0,67	18,13	<0,001
			CG	29,2 ± 1,12	32,3 ± 0,7	14,32	<0,001
			t	0,61	3,9	-	-
			P	>0,05	<0,001	-	-

Note: EG – Experimental group, n= 20;CG - Control group, n= 20

P	0,05	0,01	0,001
f= 19	2,093	2,861	3,883
f= 19	2,093	2,861	3,883
f= 40	2,021	2,704	3,551

In order to highlight the evolution of the technical-tactical training of the beginner tennis players, we performed both initial and final tests, using the same group of 5 tests designed to obtain as real a picture as possible of the progress of the young tennis players. This process involved the use of the experts' method, whereby their motor behavior was observed and evaluated during the two tests.

Comparing the values obtained with the value of "t" from the table of "Fisher" related to the number of cases in the column f= n-1, (20-1 for both groups) we notice that the differences are significant with a 99% certainty. For the experimental group, the calculated t value is higher than the critical "t" value from the Fisher table, at the 0.01 significance threshold (41.19>2.861), which rejects the null hypothesis (the values obtained are not due to chance) and accepts the alternative hypothesis, the difference between averages being significant at 99%, $p<0.01$.

The clearly superior results obtained from a technical point of view in the experimental group are due to the fact that the athletes in this group used adapted materials such as rackets suited to each individual's particularities, balls adapted to the level of play or smaller fields. Thus, the hypothesis is confirmed that using tennis 10 methods we get better results from the point of technical training view.

In testing the level of tactical training in terms of the length of forehand shots,the arithmetic average obtained by the experimental group was 16.15 points at the initial test and 22.7 points at the final test resulting in a difference of 6, 55 points. The coefficient of variability at the initial testing is 11.23% and at the final testing 10.31%, which indicates that this group has a high homogeneity. In the control group, the average from the initial testing was 14.2 points and at the final testing 16.95 points, resulting in an average improvement of 2.75 points. The coefficient of variability in the control group in the initial test was 11.78% and in the final test 11.87%, which indicates a high homogeneity in the control group.

Because the ability to hit balls as long as possible into the opponent's field is analysed, the only means borrowed from tennis10 but also the most important is the fact that ball rallies are made from the first training sessions. [31,32,33]

Comparison of the arithmetic averages obtained by the control and experimental groups with the. R.T. F Scales

We notice that in the test, Speed running on 10m. , the results obtained by both groups are identical compared to the R.T F. Scale. Both the control group and the experimental group achieve a difference of 0.4 seconds, but due to the fact that the experimental group obtained a higher average time in the initial testing, we observe the greater progress of this group. This aspect is mainly due to the fact that the experimental group used Tennis 10 methods, as

movement games that especially develop the speed of motion over short and very short distances.

Table 7- Table with the comparative analysis results of the averages obtained and the R. T. F. scale from the point of physical training view

Tests	Initial testing		Final testing		Scale RTF	Qualifying
	Control group	Experimental group	Control group	Experimental group		
SR10m.(s.)	2,71	2,81	2,49	2,49	2,09	poor
S.Î.L.D.P. L.(cm.)	138,05	136,5	142,2	146,4	149-173	poor
T.M.M Right (cm.)	431,95	432,8	438,5	466,6	599	poor
TMM Left (cm.)	410,2	407,3	418,9	429,85	599	poor
TMM Up (cm.)	355,6	355,5	361,5	373,8	399	poor
T-reaction (s.)	0,21	0,2	0,2	0,18	0,04	poor
Fan (s.)	22,2	22,3	21,04	19,77	18,51	poor
Hexagon (s.)	12,4	12,45	11,83	10,82	11,01	poor

In the first test specific to the game of tennis, the Hexagon, the differences compared to the R.T.F Scale were 0.72 seconds in the control group and -0.29 seconds in the experimental group. Thus, we observe that the experimental group managed to pass the average obtained by the R.T.F scale grid to the medium qualification but the control group in the poor qualification range, thus confirming the hypothesis of a more pronounced progress in the experimental group. Thanks to this result, the effectiveness of the methods borrowed from Tennis 10 is confirmed once again. In this test, a very important role in the development of tennis-specific motion speed was played by movement games where various type jumps were mainly used.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

According to the specialized literature, it is very important that the training methodology is adapted to the age and developmental stage of the children. Around the age of 6-8, sports should be less competitive and more focused on fun.

The materials, the grounds, the regulations and the means used in the training of the young tennis players must be in accordance with the motor and cognitive availability, respectively correspond to the level of growth, development and training.

According to the answers following the distribution of the questionnaire regarding the opinion of specialists on the training system for beginner tennis players, the majority of respondents positively appreciate the Tennis 10 method, even if they do not use it entirely, but only borrow certain particularities. A percentage of 92.5% of those interviewed agree that Tennis 10 methods create emulation and attractiveness among children.

After carrying out the ascertaining experiment, we can draw the following conclusions:

From a somatic point of view, we can say that the measured and calculated indicators correspond to the growth level of subjects aged 8-9 years, slightly higher compared to the national values established by the children and youth hygiene laboratory of the Institute of Hygiene, Public Health, Services of health and management, Bucharest;

The analysis of motor performance specific to the game of tennis, compared to the standards established by the RTF, shows that the motor training of the tennis players in the ascertaining group is of a poor level, this in the context where the RTF scale refers to tennis players under 12 years old. There are no scales developed specifically for the age category of 8-9 years;

In the case of the evaluated technical-tactical training indices, there are no standards or scales developed by the RTF. In this context, the experts' method was used and reporting to the maximum achievable score. For the evaluation of acquiring the execution technique for forehand and backhand shots, the ascertaining group obtained a score of only 1.78 points out of a maximum of 5 points. The technical-tactical evaluation through the 4 specially developed tests, indicates an average score between 13.67-15.4 out of a maximum score of 60 points.

Following the application of the experimental program, the somatic, motor and technical-tactical indicators from the experimental group were positively influenced and we can conclude the following by comparison with the control group:

The experimental program had no influence on the somatic indicators. Both groups recorded positive differences between the initial and final measurements, but these are the result of the normal and natural growth of all subjects;

The attractiveness of the games used determined the conscious and active involvement of the subjects in the experiment group, a fact materialized in higher motor performances than the control group. Thus, in the case of the test "Speed running on the distance of 10m", the arithmetic average obtained by the experimental group was 2.81 seconds at the initial test and 2.49 seconds at the final test, resulting in a progress of 0.32 seconds, while the control group makes only 0.22 seconds less progress, with similar performance in the final test.

Thanks to the methods borrowed from tennis 10, such as lighter and bigger balls, rackets adapted to the particularities of growth and smaller courts, the experimental group obtained favourable results in the test that analyses the level of technical training of the athletes. Thus, if at the initial testing the experts scored the sportswomen's performance with an average of 1.76 points, at the final testing the same specialists agreed with the sportswomen's average of 3.13 points, achieving a significant progress of 1.97 points. On the other hand, female athletes in the control group who were part of the group that participated in classical training, with the yellow

ball on the standard tennis court and with full size rackets, scored an average of 1.8 points on the initial test and 2 .31 points on the final test. The progress of only 0.51 points confirms the effectiveness of applying the tennis 10 methods to girls aged 8-9 years in the context of technical training.

The most significant, observable progress appears in the first test that analyzes the ability of sportswomen to hit balls as long as possible into the opponent's field, forehand. The experimental group achieved a 6.55-point improvement made from the difference in average scores from the final test of 36.8 points to the initial test of 30.65 points. The control group achieves an average score improvement of only 2.75 points as the difference between the average results from the initial test of 29.6 points and the final test of 33.45 points.

The most notable evolution from a tactical point of view is represented in Test 2, a test that analyses the ability of sportswomen to hit balls with as much accuracy as possible both in terms of length and side. In this test, with the forehand shot, the experimental group obtained an average of 15.1 points at the initial test and 29.2 points at the final test, thus resulting in an improvement of 14.1 points. The control group obtained an average result of 14.8 points in the initial test and 17.35 in the final test, thus making a progress of only 2.55 points.

Recommendations:

Due to the need to achieve a more detailed record of the immediate and long-term impact of the Tennis10 methods on the somato-functional, motor and technical-tactical development, as well as on the more effective assimilation of the tennis game, the extensive implementation of these means during training in as many tennis clubs as possible in Romania is requested. It is essential that results are systematically measured, disseminated and compared with the performance of other clubs adopting traditional methods. This could be achieved through a series of sessions organized at regional or national level, as well as by publishing the results in specialist journals. This approach would contribute to changing the mentality of coaches and to a climate conducive to the adoption of this concept in training

Two other important proposals for strengthening the implementation of the Tennis 10 methods would be:

1. Developing set of tests and evaluation scales for 8-9-year-old children: The creation of specific tests and evaluation scales adapted to the children's age would provide a standardized way of measuring progress within this age. These tools could be proposed and integrated within the Romanian Tennis Federation (T F.F).

2. Creation of a guide for approaching the Tennis 10 method for children. A detailed guide providing theoretical and practical information, providing specific strategies and methods for the effective implementation of Tennis 10 in children's training. This guide could serve as an

essential resource for trainers, facilitating the adoption and implementation of the method appropriately.

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ADNOTARE

Bucătaru Răzvan-Marian: *Pregătirea tehnică a tenismenilor începători prin aplicarea mijloacelor din tenis 10:* Teză de doctor în ştiinţe ale educației. Chişinău, 2024.

Structura tezei: adnotare, introducere, 3 capitole, concluzii şi recomandări, bibliografie – 167 de surse, 22 anexe, 134 pagini text de bază, 65 de figuri și 13 tabele. Rezultatele au fost publicate în 8 lucrări științifice.

Cuvinte-cheie: tenis 10, tenis, pregătire tehnică, pregătire fizică, particularități de vârstă, antrenament, mijloace, evaluare, copii.

Scopul cercetării: Optimizarea procesului de pregătire tehnico-tactică și fizică prin aplicarea mijloacelor Tenis 10, față de eficiența metodelor tradiționale, la tenismenii începători.

Obiectivele cercetării: 1. Analiza teoretică a metodologiilor specifice pregătirii tehnico-tactice și fizice în tenis la nivel de începători; 2. Investigarea evoluţiei pregătirii fizice şi tehnico-tactice a tenismenilor începători; 3. Evidenţierea mijloacelor care favorizează învăţarea deprinderilor motrice specifice jocului de tenis; 4. Elaborarea unui program experimental de pregătire la nivelul tenismenilor începători cu mijloace din tenis10; 5. Argumentarea experimentală a eficienţei folosirii materialelor adaptate nivelului de creştere şi dezvoltare a copiilor începători în tenis.

Noutatea și originalitatea științifică a cercetării constă în conceperea și implementarea unui program experimental în care echipamentele, materialele, terenurile şi regulamentul este adaptat particularităţilor somato-motrice ale tenismenilor.

Problema ştiinţifică importantă soluţionată constă în eficientizarea pregătirii tehnice la nivelul tenismenilor începători prin evidenţierea aplicării mijloacelor folosite în tenis 10, unde materialele folosite sunt adaptate nivelului de creştere şi dezvoltare somato-motrică faţă de metodele şi mijloacele tradiţionale folosite, unde toate acestea sunt standardizate, fără a ţine cont de posibilităţile micilor tenismeni.

Semnificația teoretică a lucrării este determinată de faptul că în urma analizei critice a literaturii de specialitate, a observaţiilor pedagogice realizate pe parcursul experimentului şi a interpretării chestionarului distribuit s-a concluzionat că majoritatea antrenorilor sunt de acord cu metodologia tenis 10, dar totodată folosesc şi metode tradiţionale în învăţarea jocului de tenis.

Valoarea aplicativă a lucrării constă în argumentarea pe cale experimentală a beneficiilor utilizării mijloacelor dni tenis 10 comparativ cu învățarea tradiţională în etapa de iniţiere în tenis la copiii de 8-9 ani.

Implementarea rezultatelor ştiinţifice. Programul de cercetare experimental, a fost aplicat în scopul creşterii randamentului lecţiilor de tenis, iar rezultatele prezentei cercetări au fost implementate în cadrul antrenamentelor sportive, organizate la Clubul de tenis NFS Brăila

ANNOTATION

Bucataru Razvan-Marian: **Technical training of beginner tennis players through the application of tennis 10 method***:* PhD thesis in educational sciences. Chisinau, 2024.

Thesis structure: annotation, introduction, 3 chapters, conclusions and recommendations, references – 167 sources, 22 appendices, 134 pages of basic text, 65 figures and 13 tables. The results were published in 8 scientific papers.

Keywords: tennis 10, tennis, technical training, physical training, age characteristics, training, methods, evaluation, children.

The purpose of the research: Optimizing the process of technical-tactical and physical training through the application of Tennis 10 methods in beginner tennis players, compared to the efficiency of traditional ones.

Research objectives: 1. Theoretical analysis of the specific means of technical training in tennis at the beginner level; 2. Investigating the evolution of the physical and technical-tactical training of beginner tennis players; 3. Highlighting the methods that favour the learning of motor skills specific to the game of tennis; 4. Development of an experimental training program for tennis beginners with tennis 10 methods. 5. Experimental validation of the effectiveness in using materials adapted to the level of growth and development of tennis beginners.

Scientific novelty and originality of the research consists in the design and implementation of an experimental program where the equipment, materials, grounds and regulations are adapted to the somato-motor characteristics of the tennis players.

Important scientific problem solved consists in streamlining technical training at the level of beginner tennis players by highlighting the application of the methods used in tennis 10, where the materials used are adapted to the level of growth and somato-motor development compared to the traditional methods and means used, where all these are standardized, without taking into account the young tennis players possibilities.

The theoretical significance of the work is determined by the fact that following the critical analysis of the specialized literature, the pedagogical observations made during the experiment and the interpretation of the distributed questionnaire was concluded that the majority of coaches agree with the tennis 10 methodology, but at the same time they also use traditional methods in learning the tennis game.

The applicative value of the work consists in the experimental argumentation of the benefits using tennis 10 methods compared to traditional learning in the tennis initiation stage for 8-9 year-old children.

Implementation of scientific results. The experimental research program was applied in order to increase the yield of tennis lessons, and the research results were implemented in the sports training organized at the NFS Braila Tennis Club.

BUCĂTARU Razvan-Marian

TECHNICAL TRAINING OF BEGINNER TENNIS PLAYERS THROUGH THE APPLICATION OF TENNIS 10 METHOD

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