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COMPETITION EXERCISES AND THEIR EFFECT ON THE PERCENTAGE OF BLOOD SATURATION WITH OXYGEN AND THE ACCURACY OF SKILL PERFORMANCE AMONG TENNIS PLAYERS

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Abstract
The research aims to identify the effect of competition exercises on the percentage of blood oxygen saturation and the accuracy of skill performance among tennis players. The experimental method was used and the research community was represented by the players of the Tennis Federation Club in Maysan, which numbered (10) players. The researchers used pre- and post-tests and measurements that are consistent with the requirements of the research. The results of the study indicated the following: Competition exercises affected the percentage of blood oxygen saturation and the accuracy of skill performance among tennis players effectively among the members of the experimental group.
The method prepared by the researchers, which was adopted bynn
Keywords: competition exercises, blood oxygen saturation, accuracy of skill performance

INTR0DUCTI0N
Choosing exercises in a way that is compatible with the players' needs, abilities, and preparation stage is one of the most important points on which the curriculum's vocabulary is based to improve performance. One of the types of exercises is competition exercises, which are the development of muscles, movements, skills, and tactical actions that are performed during matches, as well as their performance, including the maximum intensity or less than the maximum, and according to the time of performance in the competition, and this is what is consistent with the exercises prepared by the researchers.
In the form of a tissue with the anaerobic energy system (phosphate and lactic) and its effects are tracked by blood measurements and the amount of oxygen saturation, which is the most important effect in returning the working muscles to their normal position quickly to perform the next repetition according to the same efficiency and accuracy. Because skill performance with a tennis ball, although it depends on the anaerobic system, when stopped, it needs to quickly restore the system, and this requires sufficient oxygen transfer to the muscles..
Hence the importance of research by preparing a set of competitive exercises to develop blood and oxygen saturation measurements in order to increase the level of accuracy of skill performance.
Through the experience and follow-up of the researchers, they noticed that there was little use of competition exercises by the coaches of the southern region with the tennis ball. Rather, some of them were unaware of their role and their impact on improving performance on the side and functional skills with the tennis ball.

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
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ISSN (E): 2942-9943

Also, many tennis coaches are ignorant of the role of exercises that seek to develop the capacity for oxygen, which has a major role in alerting people to an increase in the number of blood cells, which is reflected in an increase in the amount of oxygen that is carried to the muscles to contribute to the production of energy, and even more importantly, restoring the surrounding environment to a normal state, as well as restoring pure sources of energy. Hence lies the problem of research and the need for it, which can be summarized in the following question

((Do competition exercises contribute to oxygen saturation and accuracy of skill performance with the tennis ball?

The objective of the study

1- Preparing competitive exercises for the advanced category.

2- Identify the differences between tests and measurements (for blood measurements, oxygen saturation, and accuracy of tennis ball skills)

Research areas: Research areas included:

Human field: Maysan Oil Club players included (10) players representing Maysan Oil Club in ground tennis, applicants category.

Spatial area: The tennis court at the Maysan Oil Club and the Turkish Hospital for Cardiac Diseases

Temporal scope: the period from 10/10/2023 to 12/10/2024

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Methods and structure of the study

Epermental approach to the problem

The researcher used the experimental method because it suits the nature of the research, as the experimental method is “one of the most sufficient means of achieving knowledge when it can be used to solve problems” (Deobold van Dalen, 1984).

Participants

The selection of the sample is always linked to its representation of the original community and the possibility of generalizing its results to the community from which it was chosen. The sample “is the model on which the researcher conducts the entirety and focus of his work, or it is part of the research community in which the researcher and analysis are used, with the aim of generalizing the results he obtains to the community from which the sample was drawn (Ahmed Al-Khatib, 2003). Therefore, the research community represents the players of the tennis club in the Tennis Federation.” In Maysan, the research population to be studied was chosen intentionally from the original research population and using the method of two equal groups, namely the control and experimental group.

The researcher defined the research population as the players of the Maysan Tennis Association, the applicant category. The population was determined in a deliberate manner, and the research population reached (13) players, and (10) players were chosen randomly, representing a percentage of (90%). From the community of origin, the researcher excluded (3) players for conducting exploratory experiments. The researcher divided the two samples into two groups, experimental and control. The researcher carried out homogeneity among the members of the research sample in terms of (age, height, weight, training age, heart rate), as shown in Table (1):

Table (1)

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

It shows the arithmetic means, standard deviations, median, and skewness coefficient for individuals in the research sample

Torsion coefficient	The mediator	Std	Mean	Unit of measureme	variables
0.348	32.00	1.663	32.10	The year	the age
0.000	177.50	1.958	177.50	cm	Height
0.288	21.50	2.055	22.00	The year	Training age
0.000	77.50	1.958	77.00	Kilogram	the weight
0.095	66.50	1.350	66.40	Blow/minute	Heart rate
0.348	32.00	1.663	32.10	The year	the age

Through Table (1), it was shown that the values of the skewness coefficient were limited to (±3), which indicates the homogeneity of the research sample in the aforementioned variables.

The researcher conducted the process of equivalence between the control and experimental research groups in (serve, forehand, backhand) basic skills with the tennis ball, as shown in Table (2):

Table (2)

It shows the arithmetic means, standard deviations, calculated (t) value, and significance level of the skill performance of some basic skills with the tennis ball for the two research groups.

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Level of significance	Sig	Calculated t value	Std	Mean	Group	Testing
In moral	0.000	49.178	1.673	40.60	Empiricism	Transmission
			5.128	32.40	The female officer	
In moral	0.000	25.889	4.970	31.80	Empiricism	Forehand
			3.286	42.60	The female officer	
In moral	0.000	23.620	2.074	30.40	Empiricism	Backhand
			2.588	28.80	The female officer	

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

• Significant at the significance level > (0.05).

Through Table (2), it was shown that the calculated (t) values ranged between (49.178) and (23.620), the significance level (sig), all of which are less than 5%, which indicates that there are no significant differences between the two research groups, and this indicates the equality of the two groups in the tests.

Procedure

Tests and measurements used:-

Blood tests and measurements:

The physical effort was measured before and after performance at Al-Hakim Teaching Hospital in Maysan and in the hospital's analytical laboratory. As Appendix No. (1)

1-Measurement of white blood cells at rest and effort

2-Measurement of red blood cells at rest and effort

3-Measurement of hemoglobin at rest and exertion

4- Blood oxygen level:-

The researcher used the direct method to measure the percentage of oxygen before and after effort, this indicator using an oximeter device, as the device was installed on the index finger of the left hand. The device works automatically as soon as the index finger is placed inside it, and the result appears on the device screen, and then the reading is taken and recorded in the form.

Transmission skill accuracy test:

1- Test title: Testing the skill of serving in tennis (Dhafer Hashim Al-Kazemi, 2000).

The aim of the test: to measure the accuracy of the serve in tennis.

Measuring serve accuracy in tennis

A rope with a diameter of (4.1) inches is fixed at both ends to the two posts of the net at the top, so that the distance between it and the net is (4) feet and the distance between it and the ground is (7) feet. After the preparation period, the tester stands behind the base line designated for performing the serve for individual play, then gives five trial attempts, and after their implementation, each player is allocated ten serve attempts, at which point the ball must fall within the boundaries of the serving area and with specific calendar degrees of (1-6) degrees, as in the numbers (1-2-3-4-5-6), which represent values that indicate the serving area.

The number (1) refers to a rectangle (15 x 13.5) feet

The number (2) refers to a rectangle (6 x 10.6) feet.

The numbers (3-4-5-6) refer to rectangles, each one of which is (5.1 x 3) feet.

The same numbers (1-2-3-4-5-6) indicate the grades assigned to each of the areas on which the ball falls, provided that it passes between the net and the rope.

Balls that touch the rope or the net are not counted as an attempt and must be repeated again

The ball that passes over the top of the rope is counted as an attempt and a score of zero is awarded, even if it falls on any correct location.

The score is calculated in the correct area on which the ball lands.

Players' scores are the sum of points obtained from the ten attempts.

Front and rear ground strike test:

Test title: Front and back ground kicks (Dhafer Hashim Al-Kazemi, 2000)

Name of the test: Measuring the accuracy of the front and back groundstrokes - This test is conducted on a regular tennis court with rackets, (30) tennis balls, a registration form, and a fixed rope, as in Figure (16), explaining the laboratory's parking areas, how to conduct the test, and the evaluation marks. (1)

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

A rope is fixed on two poles in the two pillars of the network, parallel to it, at a height of (7) feet from the ground and (4) feet from the network, as shown in Figure (17).

Three parallel lines are drawn between the transmission line and the base line so that the distance between the lines is (4.5) feet.

The player stands on the center mark, which is located in the middle of the base line, and is given five trial attempts to determine the performance of the test after providing instructions by the teacher, provided that the ball is thrown directly behind the service line by the ball thrower, if there is one, or by the specialized teacher, and the player begins by trying to return the ball with his racket Using the forehand or the backhand, each player is allocated ten attempts for the forehand and ten attempts for the backhand. The player's score is the sum of the points he obtains by adding up his ten attempts. The ball must cross the net and the bottom of the rope. The student obtains ascending grades from (1-5) grades. If the ball passes over the rope, it gives half the evaluation mark for the correct area on which it falls. After the researcher conducted the exploratory experiment for implementing the training program, the implementation of the main experiment of the training program began on Thursday, 11/23/2023 AD, taking into account that the competitive exercises range from easy to difficult competitive exercises within each of the training units on the main research sample. The experiment took place at the Maysan Olympic Stadium in Maysan, and the program included (18) training units for the experimental research group, with (3) Training units per week, and the time of each training unit was (30) minutes. The main experiment ended on Thursday 1/11/2024, and the experiment was carried out by the club's coach (Hassan Karim).

Training program (competition exercises):

The researcher designed a set of competition exercises, after determining their intensity and volume, by determining the preparation stage, which is the middle stage of the special preparation stage and the competition stage. The duration of the program's implementation will be (6 weeks) At a rate of (3) weekly units for a period of (30 minutes) from the applied section, where the trainer tried it on the experimental sample during the training, it aims to develop and develop the research variables for the experimental research sample, relying on the assistance and scientific advice of the supervisors, as well as analyzing and reviewing a large number of sources, references, and scientific research whose training programs seek to train in a new and different way. Which the researcher relied on in designing the program, in order to determine the validity of the prepared exercises and the extent to which they achieve the goal for which they were formulated and whether they are appropriate with the preparation stage and degree. The final version of the training program was agreed upon and the possibility of applying it to the experimental research sample, which included competition exercises and their effect on the blood oxygen saturation rate and the accuracy of skill performance among tennis players.

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Analyses

The statistical program (SPSS), version 22, was used and the 1- arithmetic mean 2- standard deviations 3- Pearson correlation coefficient were extracted

Results

Presentation, analysis and discussion of the results: -

Table (3)

It shows the arithmetic means, standard deviations, the calculated (T) value, and the significance of the differences between the pre- and post-tests in the study variables for the experimental group

	sig	Calculated t value	Posttest	Pretest	measruing unit	Variables

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

Level of significance			Std	Mean	Std	Mean		
moral	0.000	5.71	0.54	15.60	0.83	15.09	g/dl	Hemoglobin level in the blood before exercise
moral	0.000	3.46	1.08	16.98	1.15	16.8	g/dl	Hemoglobin level in the blood after exertion
moral	0.000	19.00	0.87	5.85	0.82	5.79	Microliter	Percentage of red blood cells before exertion
moral	0.000	19.05	0.08	5.98	0.08	5.93	microliter	Percentage of red blood cells after exertion
moral	0.000	2.20	2.82	8.92	0.65	5.79	microliter	Percentage of white blood cells before exertion
moral	0.000	2.36	4.83	9.76	1.85	6.30	microliter	Percentage of white blood cells after exertion
moral	0.000	6.32	0.56	97.00	0.52	97.66	ml3/g	Blood oxygen level before exertion
moral	0.000	6.00	0.70	95.00	0.53	95.60	ml3/g	Blood oxygen level after exertion
moral	0.000	10.59	1.58	46.00	1.67	40.60	Once/minute	Transmission skill test
moral	0.000	16.00	4.52	42.00	5.12	32.40	Once/minute	Forehand skill test

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

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moral	0.000	7.77	4.40	42.40	4.97	31.80	Once/minute	Backhand skill test

* Tabulated T value (2.18) at significance level (0.05) and in front of degree of freedom (4)

Table (3) shows the values of the arithmetic means and standard deviations for the pre- and post-tests of the experimental group on the variables under study.

The arithmetic mean of the pre-test in the percentage of hemoglobin in the blood before exertion was (15.09) with a standard deviation of (0.83), while the arithmetic mean of the post-test was (15.60). With a standard deviation of (0.54), and when applying the (T) test, it appeared that the calculated value is (5.71), and when compared to the tabulated value, it is noted that it is smaller than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test. The arithmetic mean of the pre-test in the percentage of hemoglobin in the blood after exertion was (16.8) with a standard deviation of (1.15), while the arithmetic mean of the post-test was (16.98) with a standard deviation Power (1.08), and when applying the (T) test, it appeared that the calculated value is (3.46), and when compared to the tabular value, it is noted that it is greater than the tabular value, and therefore, there are significant differences in the pre-test and post-test, in favor of the post-test. The arithmetic mean of the pre-test regarding the percentage of red blood cells in the blood before exertion was (5.79) with a standard deviation of (0.82), while the arithmetic mean of the post-test was (5.85). With a standard deviation of (0.87), and when applying the (T) test, it appeared that the calculated value is (19.00), and when compared to the tabulated value, it is noted that it is smaller than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test.

The arithmetic mean of the pre-test regarding the percentage of red blood cells in the blood after exertion was (5.93) with a standard deviation of (0.08), while the arithmetic mean of the post-test was (5.98). With a standard deviation of (0.08), and when applying the (T) test, it appeared that the calculated value is (19.05), and when compared to the tabulated value, it is noted that it is greater than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test. The arithmetic mean of the pre-test regarding the percentage of white blood cells in the blood before exertion was (15.79) with a standard deviation of (0.65), while the arithmetic mean of the post-test was (8.92). With a standard deviation of (2.82), and when applying the (T) test, it appeared that the calculated value is (2.20), and when compared to the tabulated value, it is noted that it is greater than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test.

The arithmetic mean of the pre-test in the percentage of white blood cells in the blood after exertion was (6.30) with a standard deviation of (1.85), while the arithmetic mean of the post-test was (9.76) with a standard deviation of (4.83). When applying the (T) test, it appeared that the calculated value is (2.36), and when comparing it to the tabulated value, it is noted that it is greater than the tabulated value. Therefore, there are significant differences in the pre- and post-test, in favor of the post-test. The arithmetic mean of the pre-test in the percentage of oxygen in the blood before exertion was (97.66) with a standard deviation of (0.52), while in the post-test the arithmetic mean was (97.00) with a standard deviation of power. (0.56), and when applying the (T) test, it appeared that the calculated value is (6.32), and by comparing it with the tabulated value, it is noted that it is smaller than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test. The arithmetic mean of the pre-test in the percentage of oxygen in the blood after exertion was (95.60) with a standard deviation of (0.53), while the arithmetic mean of the post-test was

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
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ISSN (E): 2942-9943

(95.00) with a standard deviation of power. (0.70), and when applying the (T) test, it appeared that the calculated value is (6.00), and when compared to the tabulated value, it is noted that it is greater than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test.

The arithmetic mean of the pre-test in the transmission skill test was (40.60) with a standard deviation of (1.67), while in the post-test the arithmetic mean was (46.00) with a standard deviation of (1.58).When applying the (T) test, it appeared that the calculated value is (10.59), and when comparing it to the tabulated value, it is noted that it is greater than the tabulated value. Therefore, there are significant differences in the pre-test and post-test, in favor of the post-test.

The arithmetic mean of the pre-test in the forehand skill test was (32.40) with a standard deviation of (4.97), while in the post-test the arithmetic mean was (42.40) with a standard deviation of (4.52).When applying the (T) test, it appeared that the calculated value is (16.00), and when comparing it to the tabulated value, it is noted that it is greater than the tabulated value. Therefore, there are significant differences in the pre- and post-test, in favor of the post-test.

The arithmetic mean of the pre-test in the backhand multiplication skill test was (31.80) with a standard deviation of (4.97), while the arithmetic mean of the post-test was (42.40) with a standard deviation of ability. (4.40), and when applying the (T) test, it appeared that the calculated value is (7.77), and when compared to the tabulated value, it is noted that it is greater than the tabulated value, and therefore, there are significant differences in the pre- and post-test, in favor of the post-test.

Discussing the results of the pre- and post-tests of the experimental research group regarding blood oxygen levels and blood measurements (hemoglobin - red blood cells - and white blood cells) The researcher attributes the significant results in the percentage of oxygen in the blood and the connection to the working muscles. When the level of training is increased, the body tries to compensate for the deficiency in oxygen (the phenomenon of oxygen debt) by increasing the number of breathing times as well as increasing the depth of breathing, and since the breathing muscles are skeletal muscles that develop with training, the strength and elasticity of the muscles increases, which leads to absorbing a larger quantity. of air during a single inhalation, and this is consistent with what was stated by (Abu El-Ela Abdel Fattah, 2003) “Given that the respiratory muscles are skeletal muscles, their strength and endurance can be increased through training programmes, especially if the training programs focus on developing these muscles in terms of strength and endurance because of their importance in controlling pulmonary ventilation” (Abu El-Ela Ahmed Abdel Fattah, 2003), in addition to the role of regular training. On lung function, he stated, “Practicing regular sports training leads to positive functional changes in the respiratory system, and these changes achieve additional flexibility in the muscles of the rib cage, which increases their ability to expand and expand, which leads to an increase in the volume of inhaled air and thus helps to increase the amount of oxygen in the process of gas exchange between the blood and the alveoli and economy of breathing movement due to the increase in vital capacity (Qasim Hassan Hussein, 1990) The researcher explains the significant development that occurred for the variables under study to the nature of the exercises carried out by the experimental group, i.e. the competitive exercises, as working under the influence of conditions of lack of oxygen leads to the body adapting to compensate for the decrease in the percentage of oxygen in the blood during effort, as (Osama Riyad) indicated, “Adaptation occurs with positive physiological effects that contribute to reducing the effect of the relative decrease in the percentage of oxygen on the physical fitness of the player (Osama Riyad, 2003).As for the random result of the percentage of oxygen in the blood before exertion, the researcher attributes it to the fact that human blood is often saturated with oxygen at sea level and at rest, so it cannot be influenced by training where it is, and

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
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ISSN (E): 2942-9943

this is what was confirmed by (Mohamed Adel Rushdi, 1997): "Under most circumstances and at sea level, the arterial blood that comes out of the heart is saturated with oxygen by 97%."
While the development that occurred in the achievement was attributed to the fact that competitive exercises gave the player the ability to adapt within competitions more than they had before, which allows the player to take a greater number of shots. Discussing the results of the pre- and post-tests between the experimental research group for basic skills tests in tennis (testing the accuracy of the serve in tennis, testing the accuracy of the forehand and backhand shots in tennis) It is noted from Table (3) that all the calculated (T) values were significantly significant at the level of significance (0.05). This means the superiority of the arithmetic means for the post-tests for the performance and accuracy of the serve and the forehand and backhand for the experimental group. This indicates that there has been an effective development of these variables for the members of the experimental group as a result of their exposure to the training curriculum prepared by the researcher, which is the competition exercises.
Because the program contains codified scientific exercises that helped develop the strength of the muscle groups involved in performing tennis movements and thus affected the achievement of the required accuracy, it also developed the amounts of stroke force. This came from the development in the percentage of oxygen that helps the working muscles to continue performing in the required manner, and in which the researcher focused on the various training and emphasis on them, which helped. The control of the members of this group in the movement of their bodies during the performance of the exercises, the paths of which were similar to the motor paths for performing the forehand and backhand strike, in addition to the development of the percentage of oxygen in the blood and an increase in the components of the blood represented by white blood cells, red blood cells and hemoglobin and their relationship to the percentage of oxygen, its impact was reflected in the exercises used, which gave a positive response to the members of the research sample in performing the basic skills in the game of tennis. This means that the level of development of basic skills in the game of tennis was faster and better in the experimental group due to the use of the training program prepared by the researcher, which improved the level of oxygen in the blood. This means that the exercises carried out on the members of this group achieved their goal in developing the level of tennis players In addition, all exercises were carried out according to the correct mechanical foundations of the skill (The technical conditions of the game that the researcher used during the application of the exercises, with effective intensity and repetitions, continued throughout the duration of the application of the training program. Which contributed to strengthening the working muscles to perform the basic skills, which are the serve and the front and backhand strikes, by activating the largest number of fast-twitch muscle fibers, improving the muscles assisting with contraction, and increasing the inhibition of the antagonist muscles.The exercises used focused largely on paying attention to the technical performance of the skill to bring the player to the appropriate accuracy, as the accuracy of the motor performance and the accuracy of the shot are closely related to each other and complement each other. "The accuracy of the hit is a good indicator of the accuracy of the successful motor performance, just as the accuracy of aiming is an expression of controlling the motor flow" (Kurt Meinel, 1987). The development that occurred was in testing the accuracy of performing the forehand, backhand, and serve. In tennis, which was consistent and balanced with the results of the accuracy of the forehand, as it included training on both sides of the right and left court, performing forehand and backhand shots, and the serve, which led to the occurrence of a neuromuscular balance in developing play on both sides of the court, which had a clear impact on developing the level of accuracy. This is what was confirmed by (Mohamed Hassan 1990) that "the player's ability to have physical balance contributes effectively to improving the accuracy of skill performance. In addition to developing harmonic abilities." Which led to the development of the level of skill performance through the exercises of the training curriculum prepared by the

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

researcher, which proved their effectiveness in developing these aspects that serve the effectiveness, in addition to the factor of suspense and excitement that was introduced to the players through their use of these competitive exercises and moving away from the routine exercises that they practice in the training units. Especially since performing the backhand strike requires more repetitions and the player must practice it a lot Because it is relatively more difficult than performing the forehand, and this is what was confirmed by (Alin Wadih Farag, 2007) that "the backhand in tennis is one of the important shots in the game of tennis, and because of the difficulty of performing it, the player must make a great effort to master it so as not to give the opponent an opportunity to exploit his weakness in it. Also, (Amin Anwar Al-Khouly, 2007) pointed out that the backhand is one of the most important tennis strokes, as it is performed with the back side of the racket, but it requires developing the correct method of performance. And training on the accuracy of its implementation in the right place. The skill of serving is also considered important in the game of tennis, as the nervous system cannot store information during the first performance, and the more this information is, the more focused and accurate it is, the more the number of repetitions increases and the circumstances vary and become more complex (Wajeeha Mahjoub, 2000).

(Sarih Abdel Karim, 2010) points out, "By repeating the exercises, the kinesthetic feeling will develop." Creating a complex internal sensory-visual map of the surroundings in the player's mind, up to the mechanism stage, and he moves according to the sensory map stored in the brain. In light of the above, we find that the front and back ground strikes are considered the focus of the game, so the exchange of strikes between players during play is the greatest part of it is done through these two strikes, and the researcher focused in competitive exercises on developing aspects that serve skill performance and motor paths.

For these two skills and the serving skill, especially the coordination and physical abilities between the arm, eyes, feet and eyes, which have proven effective in developing aspects of accuracy in skill performance with regard to the front and back kicks and the serve

CONCLUSIONS

1-Competition exercises have a positive effect on the athlete's body adaptations as well as achievement.

2-Competition exercises give positive results and faster physiological adaptations than normal training

REFERENCES

1. -Dieopold van Dalen, translated by Muhammad Nabil Nofal (et al.), Research Methods in Education and Psychology, 2nd edition, Cairo, Anglo-Egyptian Library, 1984, p. 16.
2. - Ahmed Al-Khatib, Scientific Research for Higher Education, Jordan, Dar Al-Maysara Publishing, 2003, p. 53.
3. - Dhafer Hashim Al-Kazemi, Technical and Tactical Preparation in Tennis, Baghdad, University House for Printing, Publishing and Translation, 2000, p. 64
4. - Sports club coach, Hassan Karim / Maysan Oil Club / Maysan Ground Tennis Federation
5. - Qasim Hassan Hussein: Physiology, its principles and applications in the sports field. Mosul. Dar Al-Hekma for Printing and Publishing. 1990. p. 134.
6. - Osama Riyad: Sports medicine and athletics. 1st edition, Cairo, Dar Al-Fikr Al-Arabi. 2003. p. 379.
7. - Muhammad Mahmoud Ahmed: Scientific and practical results on the effect of blood pressure on the athlete. Jordan . Dar Al-Fikr for printing, publishing and distribution. 1999. p. 47
    - Ayesh Zaytoun, Mathematical Biology, Cairo, Dar Al-Fikr Al-Arabi, 2002, p. 252.
    - Ali bin Saleh Al Harhouri, Science of Sports Training. Benghazi. Physionis University Publications. 1994. p. 27.
    - Abu Al-Ela Ahmed Abdel Fattah: Biology of Sports. Cairo . Dar Al-Fikr Al-Arabi. 1982. p. 146.

Proximus Journal of Sports Science and Physical Education
Volume 2, Issue 01, January,, 2025
https://proximusjournal.com/index.php/PJSSPE
ISSN (E): 2942-9943

8. - Muhammad Adel Rushdi,. Cairo . Knowledge facility. 1997. p. 104
9. - Ali Salloum Jawad. Ball and tennis games, Baghdad, Al-Tif Press, 2002, p. 80.
10. - Amin Anwar Al-Khouly. Racquet Games (Technical and Educational Preparation), Volume Three, Cairo, Dar Al-Fikr Al-Arabi for Printing, Publishing and Distribution, 2007, p. 18.
11. - Wajih Mahjoub; Learning and Training Scheduling, Amman, Wael Printing and Publishing House, 2000, p. 1
12. - Sareh Abdel Karim, Motor Learning, Cairo, Dar Al-Fikr, 2010, p. 192.
13. - Asaad Al-Ani, Muhammad Saleh; Distance and its relationship to the accuracy of shooting from a standstill in basketball, published research, Journal of Physical Education, University of Baghdad, No. 14, 1999, p. 3.
14. - Kurt Meinel, translated by Abd Ali Nassif, Kinetic Learning, 2nd edition, University of Mosul, Directorate of Dar al-Kutub for Printing and Publishing, 1987, p. 105.
15. - Muhammad Hassan Allawi, Science of Sports Training, 11th edition, Cairo, Dar Al-Maaref, 1990, p. 3.
16. - Elaine Wadih Farag, What's New in Tennis, The Road to the Championship, Alexandria University, Faculty of Physical Education for Girls, Manshaet Al-Maaref, 2007, p. 55.
17. Kurt Meinel (translated by Abd Ali Nassif), Motor Learning, 2nd edition, University of Mosul, Directorate of Dar Al-Kutub for Printing and Publishing, 1987, p. 105.