

# THE EFFECT OF SPECIAL EXERCISES ON THE DEVELOPMENT OF SPECIAL ENDURANCE AND TACTICAL BEHAVIOR OF ADVANCED PLAYERS IN FUTSAL

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**ABSTRACT:** The importance of the research lies in preparing special exercises in a scientific way, if researchers see that they affect the development of specific endurance and tactical behavior for advanced players in futsal. As for the research problem: through the researchers' experience and their knowledge of different levels, it was found necessary to use special exercises to develop special endurance, which enables the player to perform continuously and well for the longest possible period and a stable level of performance as possible.

The researchers followed the experimental approach by designing the two equal groups with two pre and posttests, and on the main research sample of (16) players representing the Central Naft Club for the year (2019-2020), if they were divided into two groups equally in a random manner and by drawing lots, and the experimental group followed the special exercises, While the control group followed the method followed by the trainer, and a parity process was conducted in the pre-tests for basic skills and planning behavior, and then the implementation of the vocabulary of special exercises on the experimental group within a period that lasted (8) weeks, and the number of units per week (3), and the number of The total units are (24) training units and with a time of (90) minutes for each one, and after completing the implementation of the vocabulary of the special exercises, the post tests were conducted on the control and experimental research groups and in the same circumstances and conditions in which the pre-tests were conducted.

After extracting the results and treating them with the appropriate statistical means, the researchers reached a set of conclusions, the special exercises are more effective and preferable in developing the types of special endurance (endurance strength - speed endurance - endurance performance) .Where the researchers recommended the adoption of special exercises in developing the types of special endurance and linear behavior. And basic skills for advanced players in futsal.

**KEYWORDS:** Exercises, special endurance and tactical behavior.

## I. INTRODUCTION

The science of training has developed a great and broad development in general as a result of serious scientific research that helped to advance in all games, as sports training aims to develop the capabilities and abilities of the athlete and bring them to the highest level to achieve high achievement and this is done through the events of appropriate functional adaptations in the body's systems through training loads On the one hand, the occasion and the organization on the one hand, and on the other hand, sports training is one of the main factors on which the preparation and preparation of sports teams and raising their capabilities is based, because sports training has had a great impact in all fields and one of these areas most affected by the development of training science is training in the futsal game Futsal because of its global position, Therefore, the numbers of players are required physically, skillfully, strategically and psychologically, taking into account the adoption of the universal futsal method (inclusiveness in the performance of duties) and despite the importance of these elements in training the futsal footballer and the need for integration and integration between them, however, futsal football relied on physical preparation in developing endurance for what It has the greatest impact on developing players effectively, which is reflected in their skillful and tactical performance, since without it players cannot From performing their defensive and offensive duties on the field, and special endurance is one of the most important physical abilities due to its correlation with the performance of skills on the one hand and some other abilities such as strength and speed (enduring speed - carrying strength) on the other hand.<sup>1</sup>

The player's occupation of more than one position in the team so we see the defender contribute in a way He is effective in attack and the attacker retreats to defend his team's goal and despite the player's endurance of this high effort, he must maintain his physical, skill and planning competence throughout the duration of the match. Here, the importance of special endurance appears as one of the factors affecting the players' performance level during the two halves of the match. The level is facing the largest oxygen debt, which leads to slow hospitalization and early fatigue. "2 There is a correlation between the player's mastery of soccer tactics and technique and the level of growth of his own endurance element since improving the economy in the effort exerted in order to perform a skill reduces the amount of necessary energy, which requires that the player performs only the movements necessary to control the ball and that Acts appropriate to the playing situation.

Through the above, the importance of the study lies in reaching results that serve the game by developing special exercises to identify the effect of these exercises to develop special endurance in some basic skills and the tactical behavior of players in futsal. Through this and the fact that the researcher has practiced futsal football at different levels, he found that it is necessary to use special exercises to develop special endurance and basic skills for some of them, which enable the player to perform continuously and well for the longest possible period and a stable level of performance as possible, hence the research problem In the use of these special exercises in developing special endurance and some basic skills and tactical behavior of the players, which thus affect the level of performance, which is positively reflected in achieving the best results.<sup>3</sup>

Consequently, the researchers set the objectives of the research, which are preparing special exercises to develop special endurance and some basic skills and tactical behavior for advanced players in gymnasiums. They also assumed that there was an effect of special exercises in developing the special endurance and some basic skills and tactical behavior of advanced gymnasts.

As for the fields of research, they were represented by the players of the Wasat Naft Club for the applicants for the sports season (2019-2020) and the time of conducting the experiment was on 10/22/2019 until 12/7/2020. As for the place of application of special exercises and field experiments, the researchers chose Naft Club stadium the middle .

### **Means of gathering information and tools used in the research**

#### **Means of gathering information**

- Arab and foreign sources and references.
- Questionnaire form.
- The opinions of experts and specialists.
- Test and measurement.
- The halls football field is legal.
- Footballs for halls, count (12).
- Colorful bars to divide the goal.
- Small goals.
- Whistle type (FOX).
- Electronic stopwatch.
- Tape measure.
- Handy Calculator (CASIO).
- 3 Sony video cameras.
- P4 type computer device.

## **II. FIELD RESEARCH PROCEDURES**

### **Special stress tests**

#### **Speed endurance test<sup>4</sup>**

Test name: Running the ball for a distance of (5 x 30) m without stopping.

- Objective of the test: To measure the soccer velocity endurance.
- Used tools:
  - (Stopwatch - two (2) signs. Football - a tape measure whistle).
- Description of the performance: From the high starting position, the player stands behind the starting line and the ball is on the starting line, and with the start signal, the player runs the ball at maximum speed, a

distance of 30 m to the finish line, rotates around the end line marker and returns with the ball, repeating the test five times and continuously.

- Test Instructions: Determining a distance of (30) m, in which the starting line is determined by two signs, as in Figure 1, and the player performs only one attempt.
- How to register: Calculates the time taken back and forth five times and records to the nearest second.

### **Strength Endurance Test <sup>5</sup>**

Name of the test: vertical jumping from a squatting position and (full bending of the knees) for a period of (30) seconds.

- The aim of the test: to measure the strength endurance of the leg muscles.
- Tools used: a stopwatch. A whistle.
- Description of the performance: When starting and from a squatting position, the tester is held high so that the knees extend and the feet leave the ground in each jump, and the player continues to jump for a period of (30) seconds, as shown in Figure (2) below.
- Test Instructions: The jump is made with the arms extended at the level of the abdomen, noting that the knees are completely bent in a squatting position. An attempt is given to each laboratory.
- Recording method: The tester records the number of jumps within (30) seconds.

### **Performance Test :**

- Test name: He ran zigzag with the ball and ended with scoring (twice, from the left and the right to the side of the court).
- The aim of the test: to measure the performance endurance.
- Used tools: a stopwatch, count (19) signs. A tape measure whistle.
- Description of the performance: In the middle of the soccer field, we put two rows of signs as in Figure (3) on the row in the form of a rectangle. There are several specific distances (9). The player raises the ball with his foot up and dampens the ball in a free way for a specified distance of (5) m. (15) M runs with the ball and passes the signs by zigzag (Zakzak) for a distance of (20) meters, and after crossing the last one, he transfers the ball to the inner part of the foot and its face to the middle circle in the middle of the arena, and if he is unable to direct the ball to the middle circle, the ball must be transferred again and if it does not succeed On the second ball, the test must be repeated. After hitting the ball to the circle, the player starts to run with the ball and runs to it from the center of the circle towards the seven organized signs in one row, passing it by a zigzag roll between the signs, the last person passes from the right side and before the penalty line the player aims at the goal, after that he runs directly to the ball in the right corner of The middle of the penalty and roll it back to the nearest marker and aim with the left foot after passing this person and then to the other, left corner of the penalty area and roll the ball that is there by the same way and aim with the right foot and after this goal he runs to the last ball in the penalty kick point and aims at the goal and when crossing the ball from The mouth of the goal is a signal that the test has ended, and at this point the time is measured by the stopwatch.
- Test Instructions: All goals must cross from inside the goal and touching the crossbar or the post is not considered a goal.
- If a player fails, the ball on the side must be used.
- The successive failure makes it necessary to repeat each test a second time on the specified row of inhibitors.
- The test is carried out successively on the first and second grades, and the time is calculated for both tests.
- How to register: The time is calculated to the nearest (1/100) of a second from the start until the soccer ball crosses the goal.
- The test is carried out successively on the first and second grades, and the time is calculated for both tests.
- Each player is given one attempt.

## **III. THE MAIN APPLICATION EXPERIENCE**

### **Special exercises**

The researcher designed training modules using special exercises, depending on the method of interval training of high intensity and low intensity. After obtaining the necessary modifications by the supervisor, the training units were finalized, and there are some scientific notes related to the training units, namely:

- The duration of the units for the experimental group is (8) weeks, with two medium sessions and (3) training units in one small session.
- The fluctuation of the load in one medium cycle is (1: 3) and according to the intensity of the maximum work, as shown in Figure (7).
- The training method used in the training modules is the intermediate (interval) of high intensity and low intensity.
- The number of repetitions of compound exercises from (3-4) repetitions.
- The researcher took care that each unit carries speed in the first and second exercises and carries strength in the third and fourth exercises.
- The training modules were performed during (Saturday - Monday - Wednesday).

**Building and implementing specific exercises used for research**

A set of special exercises was built after analyzing the content of scientific sources and scientific studies, in addition to the assistance of the supervisor, and (59) exercises were approved after making some modifications to them. The exercises were carried out on the experimental group on (10/12/2019) until (9/2 /) 2020) and the researcher took into account a number of important points when implementing the exercises, namely:

1. Starting all training units with general numbers in order to prepare all the muscles of the body, then making special preparation for the muscles participating in the performance within the training unit and ending the training units with exercises for calming and relaxing the muscles.
2. Special exercises were implemented as part of the complete training modules, which were applied in the main section of the training unit.
3. Special exercises were applied in two medium sessions with (4) small sessions in each medium cycle, and the movement of the load was fluctuating in the medium sessions (1: 3).
4. Each minor course consisted of (3) training units per week, meaning that the research sample (24) training units were carried out during the period of the experiment.
5. Interval training, high and low intensity, was used in the application of special exercises.
6. The degree of load was controlled depending on the change in intensity, ie raising the intensity and stabilizing both size and comfort.
  - The severity of the load was determined in the proposed exercises based on the sources that dealt with the high-intensity interval training, in addition to conducting personal interviews with a number of experts, and given the specificity of the special exercises from the link between physical effort and skill required that to determine the most appropriate level of intensity Used in special exercises that do not deviate from the ranges mentioned by scientific sources. In determining the severity of the load for endurance exercises, the sources indicated that working at a ratio of (95-80%) of the maximum value of the exercises is suitable for raising the heart rate to (180)  $z / d$ , As for determining the intensity of work for strength endurance exercises, the sources refer to work at a rate of (95-70%) of the maximum value of the exercise.
  - Heart rate value = load score% x (heart rate reserve + resting heart rate) =  $z / d$ .<sup>6</sup>
7. The rest times were determined between repetitions based on returning the heart rate index to (130-120)  $z / d$ .
8. The movement wave used in the load was dependent on the intensity and time of the training load for each minor cycle.
9. The performance time for each compound exercise was determined by measuring the performance time of each exercise, as well as measuring the heart rate index immediately after the completion of each exercise.

While the control group applied (the coach's curriculum) by (3) training units in one small session for a period of (8) weeks, as it was divided into two intermediate sessions, and accordingly, (24) training units were implemented and these exercises were carried out in the main part of the training unit and on the stadiums of the club Middle Nafout.

IV. RESULTS AND DISCUSSIONS

**Table 1.** Show the mean of the differences, the calculated (t) value, and the significance of the differences between the two pre-post tests for the special stress types of the control group

Variables	Units	Pretest		Posttest		Mean diff.	SD diff.	(t) calculate	Moral value	Type of significance
		Mean	SD	Mean	SD					
Endurance speed	Sec.	35.5	1.56	32.5	3.01	3	1.36	2.18	0.000	Sig.
Endurance strength	Rep.	20.5	1.48	22.5	0.50	2	0.83	2.14	0.000	Sig.
Endurance performance	Min.	3.47	1.25	3.03	1.05	0.44	0.69	2.53	0.003	Sig.

**Table 2.** Show the mean of the differences, the calculated (t) value, and the significance of the differences between the two pre-posttests of the special stress types of the experimental group

Variables	Units	Pretest		Posttest		Mean diff.	SD diff.	(t) calculate	Moral value	Type of significance
		Mean	SD	Mean	SD					
Endurance speed	Sec.	34.33	1.63	27.66	1.03	6.67	0.83	6.74	0.000	Sig.
Endurance strength	Rep.	19.83	0.98	25	1.54	5.17	0.60	8.59	0.000	Sig.
Endurance performance	Min.	3.59	1.29	2.77	0.87	0.82	0.91	6.33	0.000	Sig.

Through Table (1-2) we can see that there are significant differences between the pre and posttests of the experimental group and in favor of the posttest in the types of special endurance (speed endurance - force endurance - endurance performance) as the values of (t) calculated respectively were (6.74), (8.59), (6.33) and the level of significance (sig) of the amount respectively (0.000), (0.000), (0.000) which is less than the level of significance of (0.05), and the researcher attributes the existence of significant differences in endurance speed to what is included in the exercises Special emphasis has been placed on this ability in more than one exercise and training unit due to its importance for the futsal player to be able to maintain his speed for the longest possible time, whether with the ball or without it.<sup>7</sup> And that this ability can be developed through interval training, which was adopted by the researcher and it depends on “repeating a set of exercises with breaks times, and the rest time depends on the intensity of the used load and the direction of its effect, whether it is for the development of anaerobic work or aerobic work, this method helps It improves the athlete’s ability to maintain his speed.”<sup>8</sup>

As for the endurance of strength, the researcher attributes the existence of the moral differences in endurance of strength to the effectiveness of special exercises, as the scientific foundations were relied upon in preparing them such as intensity, comfort and repetition for each exercise. In this regard, “anaerobic exercises are practiced by alternating the repetition of the exercise with rest that separates the performance of each exercise and the other, and the intensity of the performance difficulty is usually above average or high.”<sup>9</sup> “the effect of training with intensity from (100-30%) of the maximum intensity leads to achieving good results in strength training.”<sup>10</sup> The type of exercises used had a positive effect on strength endurance by the moral differences and the effect on development that It happened in the endurance of strength by performing many repetitions that are characterized by the characteristic of endurance strength, which affected the muscle groups, as well as that repetition of repetitions leads to an increase in the capacity of carrying force as well.<sup>11</sup>

As for the endurance of performance in the moral differences, the researcher attributes it to the special exercises that were placed according to distances that were previously determined on different areas of the stadium and of various types and placed by the researcher, which reflected on the player's performance endurance capacity as well as the performance of exercises associated with different skill and tactical forms, and in my capacity as endurance speed and endurance Strength through high intensity, and this is what Hashem Yasser pointed out that "developing the endurance of the skillful performance of soccer players through the use of anaerobic energy systems with a high degree of intensity or repeated rapid muscle contractions and performance continues under those conditions for a period of more than (5 seconds) and less than (60 seconds). As this type of training represents the ability to persevere in performance as well as keep the ball for the longest possible period of time.<sup>12</sup>

## V. CONCLUSIONS

1. Special exercises led to the development of special endurance types (speed endurance - strength endurance - performance endurance) due to the increase in performance time and the high level of severity of contractility.
2. Special exercises developed the tactical behavior and some basic skills (exercise - aiming - running with the ball) for advanced players in futsal soccer.
3. The coach's approved approach develops the types of special endurance (endurance of speed - endurance of strength - endurance of performance), tactical behavior, and basic skills (training - aiming - running with the ball) for advanced futsal soccer players.
4. Special exercises are more effective and preferable in developing the types of special endurance (endurance of speed - endurance of strength - endurance of performance), tactical behavior and basic skills (exercise - aiming - running with the ball) for advanced futsal players.
5. The method of choosing the specificity, quality, number and distribution of special exercises in an equal manner had a clear effect on the development of all the variables dealt with in the research through the presence of significant differences between the control and experimental groups, which showed the results of the (t) test.

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