

## THE EFFECT OF SPECIAL EXERCISES FOR SOME PHYSICAL AND COMPATIBILITY ABILITIES AND THEIR RELATIONSHIP TO SOME BASIC SKILLS OF FEMALE FOOTBALL FUTSAL PLAYERS

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### Abstract

The purpose of this paper is to using special exercises to develop some of the physical and compatibility abilities of the female futsal players and knowing the effect of these exercises on the research variables as well as knowing the relationship between some compatibility abilities and some basic skills in futsal football. The researcher used the experimental method for its relevance to the nature of the problem to be solved and to achieve the objectives and hypotheses of the research, as well as the method of the control and experimental groups (with pre and post-tests). The research community is represented by the Baghdad women's clubs in futsal and participating in the league, which are 4 clubs (Al-Quwa Al-Awwaa - Al-Iskan - Baladi - Al-Mustaqbal) and a number of (48) players the sample of the research, which was chosen in a deliberate way, included the 14 players of my country's football club for futsal, who were divided into two experimental and control groups with the choice of (4) players randomly as a survey sample, and thus the sample represented (29.16%) of the research community. The researcher determined the physical abilities, combinatory and basic skills and chose the tests for each variable after conducting a number of personal interviews with the experts, in addition to the researcher's personal experience. The most important results reached by the researcher is the presence of a noticeable development in the physical abilities and harmonic and the basic skills under discussion in addition to the existence of a significant correlation between the harmonic abilities and some basic skills in football for the halls.

**Keywords:** Futsal football. Special exercises. Physical abilities. Compatibility abilities. Basic skills

### Introduction

Futsal is one of the games with high physical requirements that need integrated preparation so that the player can bear the burdens that she faces during the match.

Despite the novelty of the game, it has taken development in many countries of the world and this is due to the reliance on sciences related to the field of sports, whose main goal is to raise the physical and skill level, taking into account the privacy of each game in terms of physical abilities, harmonious, kinetic and basic skills, as the female futsal player It must possess high level physical and compatibility capabilities in order to be able to implement the basic skills of the game and the many different individual differences within the same team.

The world has managed to bypass the traditional framework and was able to make teams that have all the

Manuscrito recibido: 29/09/2022

Manuscrito aceptado: 13/10/2022

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qualifications to play this game, and the main concern of the coaches is how to prepare a player with specifications that qualify him to enter the arena of competition and with high efficiency according to advanced training curricula.

The skill performance is generally related to physical and harmonious abilities and as a result of this connection, it has become important for the female futsal player to be characterized by physical and compatibility abilities specific to the type of skill in order to integrate the conditions to achieve the goal of performing the required skill.

From here came the importance of the research in studying some of the physical and compatibility abilities of the players and developing them through special exercises and knowing the relationship of some compatibility abilities to some basic skills in futsal football.

Due to the multiplicity of training vocabulary for futsal football, it has diversified accordingly the methods of performing its basic skills because it is the decisive and important factor in changing the outcome of the match. The state of play by possessing the compatibility abilities that make him deal with all the circumstances he is going through in the match.

In a study by (Kamash, 2012), the researcher used a proposed approach on some combinatorial abilities and basic skills for young football players, in which he emphasized the use of the educational curriculum in improving some combinatory abilities and basic skills.

In a study of (Abd, 2014), the researcher used combinatorial abilities exercises on (21) players of the Iraqi lion's football team and concluded that the applied exercises have a positive effect in the development of neuromuscular compatibility, which leads to an increase in the transitional speed.

As for the study (Abdel-Aal, 2011), the researcher used a proposed training approach to develop compatibility abilities in a sample of (18) junior handball players. Performing offensive handball skills.

In a study by (Loas, 2016), the researcher used predictive values and combinatorial abilities and their relationship to some basic skills on a sample of (84) female club players participating in the league and it was concluded that some combinatorial abilities affect the performance of some basic skills, just as the combinatorial abilities are affected by the basic skills differently among

themselves, and each of the combinatorial abilities cannot be generalized to the other skill.

### Research problem

From the researcher's follow-up to the women's futsal matches, he noticed a weakness in some of the compatibility abilities of the players, which led to a weakness in the performance of skills, so the researcher decided to solve this problem by using special exercises to develop and develop some of the physical and compatibility abilities of the players and know their relationship to some basic skills And thus develop the performance of these skills.

### Research objective

- Using special exercises to develop some of the physical and compatibility abilities of the female futsal players and knowing the effect of these exercises on the research variables as well as knowing the relationship between some compatibility abilities and some basic skills in futsal football.

### Research Methodology and Field Procedures

#### Research Methodology

The researcher used the experimental method for its relevance to the nature of the problem to be solved and to achieve the objectives and hypotheses of the research, as well as the method of the control and experimental groups (with pre and post-tests).

#### Community and sample research

The research community is represented by the Baghdad women's clubs in futsal and participating in the league, which are 4 clubs (Al-Quwa Al-Awwaa - Al-Iskan - Baladi - Al-Mustaqbal) and a number of (48) players the sample of the research, which was chosen in a deliberate way, included the 14 players of my country's football club for futsal, who were divided into two experimental and control groups with the choice of (4) players randomly as a survey sample, and thus the sample represented (29.16%) of the research community. As for the variables under study, the physical, combinatory, and basic skills were selected and each variable was tested after conducting a number of personal interviews with the experts, passing (1), and they were as follows:

- Physical variables: (explosive power, power characteristic of speed, speed length, kinetic speed).
- Compatibility variables: (speed of kinetic response of the legs, compatibility of the legs and eyes, adaptation to changing situations, speed of kinetic linkage)
- Skill variables: (passing, rolling, shooting).

**Selected tests: passing (2)**

- Physical: (broad jump from standing still, Bounding to the maximum distance within (10) seconds, shuttle running, the speed of the man's movement in the horizontal direction).
- Compatibility: (Nelson test, jumping on numbered circles, shuttle runs of different dimensions, passing blocks, passing and shooting from a distance of (6) m)
- Basic skills: (passing towards a small target from a distance of (10) m, rolling for a distance of (20) m and back, shooting at a target divided by degrees from a distance of (6) m).
- The data was collected through Arab and foreign sources, personal interviews, questionnaire forms, assistant work team, tests and measurements, exploratory experiment.

The researcher used the following devices and tools: a Chinese-made Kiso electronic stopwatch, a Japanese-made Canon video camera, a Chinese-made HP laptop, a Canadian-made Fox, soccer balls, 10 halls, and a soccer field. Galleries, a metal measuring tape with a length of (6) m, beams, ropes of different lengths, small and large barriers, hoops and stairs, two Swedish terraces, a kinetic speed measuring device.

The researcher conducted the exploratory experiment for the tests in the football field for the futsal in my club on Monday 12/11/2018 AD on the survey sample of (4) players who were randomly selected from within the research sample, and the aim of this experiment was: (to know the difficulties that the researcher will face And work to avoid them, knowing the time taken to conduct the tests, knowing the ability of the sample to perform the selected tests, knowing the ability of the assistant team to know and determine the tests).

The researcher also conducted another reconnaissance experiment for special exercises on Thursday 15/11/2018 in order to identify (The extent of difficulty and suitability of the particular exercises to the sample. Knowing the duration of work and rest for each exercise, determining the pulse output of each exercise to determine the required intensity).

The pre- tests (physical and skill) for the research sample were conducted after preparing a form to record the results of the tests and for each of the control and experimental groups on Monday 19/11/2018. As for the tribal tests (for combinatory abilities) that were conducted on Wednesday 21/11/2018.

As for the main experience, it is a set of exercises proposed in appendix (3), which were codified in a way that suits the nature of the game and the level of the players, and their number (9) exercises were applied in the main section of the training unit (the part related to physical preparation - skill) within the period of special preparation for a period of (8) weeks And by (3) training

units per week (Saturday, Monday and Wednesday) starting from Saturday 24/11/2018 until Wednesday 16/1/2019 and the following researcher took into account:

1. The number of training units reached (24) training units, and the total time for the total weekly training units was (120) minutes, at approximately (25-45) minutes from the main section in one training unit. Others are according to the requirements of each exercise.
2. The control group exercises in the manner of the trainer only.
3. The experimental group exercises in the manner of the trainer, except for the skillful physical preparation part of the main section, so the training will be on special exercises only.
4. Rest is calculated based on the pulse, "as the player starts repetition when he reaches (100) beats per minute. As for rest between groups, it is until the pulse reaches (90) beats per minute for the repetitive training method" (Ahmed, 1999, p. 128), " the pulse was calculated by the carotid artery by counting for (6) seconds and multiplying the result (×10) to give the result of the pulse per minute because this method is the best and most accurate method" (Ahmed Al-Qat, 1999, p. 43).

Post-tests were conducted after completing the main experiment on Saturday 19/1/2019 (12 hours) at noon, the researcher took into account the availability of the same conditions and the place of the pre-tests to avoid any differences between the pre- and post-tests.

**Results and Discussion**

From what is shown in Table 1, it appears to us that there is a significant development between the pre and post-tests and for the experimental group of the physical tests under discussion (Tables 1-6).

**The researcher attributes this development to:**

The special exercises have effectively contributed to the development of the physical abilities of the experimental group, in contrast to the control group, which relied its training on traditional exercises. The use of special exercises by the experimental group only in the main section of the training unit had a clear impact on the development of the physical variables under study, as the main section contained special exercises prepared by the researcher, which was a new method that removed the boredom that dominated the players as a result of using exercises As well as the repetitive training method, which had a significant impact on the development of physical abilities, as it led the players to rush to perform their exercises seriously and with great interaction as a result of the pleasure in performing their own exercises. The use of new auxiliary tools in training was also a great impetus to create a spirit of competition among players to achieve the best performance. As for the physical tests in the control group, there was a development in it by observing the arithmetic means and the calculated (T) value, but it did not reach the significance similar to what happened in the experimental group. A compound of two or more skills, jumping exercises, changing direction, compatibility movements, and others, which improve the weak aspects of the players and then improve their performance. As for Table 2, it shows that there is a significant development of the skills under research and of the experimental group and in favor of the post-test, and the researcher attributes that development to the fact that the construction of exercises, in particular, was based on a scientific method

**Table 1:** Shows the arithmetic mean of the difference between the arithmetic means, standard deviations, and the calculated and tabulated T-values between the results of the pre and post-tests of physical tests in the control and experimental group.

Groups	Tests		Measuring unit	arithmetic mean of difference	standard deviation of differences	T value	Level sig	Type sig
Control	Nelson kinetic response test	Right	Sec	0,005	0,007	0,714	0.12	Non sig
		Left		0,009	0,004	2,25	0.23	Non sig
	Stability wide jump test		Meter	0,006	0,004	1,5	0.09	Non sig
	Bounding test for maximum distance in (10) seconds		Meter	0,016	0,014	1,14	0.20	Non sig
	Test the speed of the legs movement in the horizontal direction	Right	Cycle	0,20	0,168	1,19	0.08	Non sig
		Left		0,60	0,35	1,71	0.14	Non sig
Experimental	Nelson kinetic response test	Right	Sec	0,179	0,012	14,91	0.001	sig
		Left		0,120	0,014	8,57	0.000	sig
	Stability wide jump test		Meter	0,066	0,016	4,12	0.002	sig
	Bounding test for maximum distance in (10) seconds		Meter	0,225	0,018	12,5	0.012	sig
	Test the speed of the legs movement in the horizontal direction	Right	Cycle	3,00	0,264	11,36	0.000	sig
		Left		1,600	0,224	7,14	0.000	sig

**Table 2:** Shows the arithmetic mean of the difference of arithmetic means, standard deviations, and the calculated and tabulated T-values between the results of the pre and post-tests of the skill tests in the control and experimental group.

Groups	Tests	Measuring unit	Arithmetic mean of difference	Standard deviation of differences	T value	Level sig	Type sig
Control	Shooting test (6)	Degree	0,70	0,305	2,29	0.095	Non sig
	Test passing towards a small target from a distance of (10)m	Degree	0,48	0,068	7,05	0.001	Non sig
	Rolling test for a distance of (20) m and back	Sec	0,227	0,135	1,68	0.089	Non sig
Experimental	Shooting test (6)	Degree	3,60	0,65	5,53	0.000	sig
	Test passing towards a small target from a distance of (10)m	Degree	1,40	0,325	4,30	0.000	sig
	Rolling test for a distance of (20) m and back	Sec	0,602	0,072	8,36	0.000	sig

**Table 3:** Shows the values of the arithmetic means, standard deviations, the calculated and tabulated (T) values, and the significance of the differences for the two experimental and control groups for physical tests in the post-tests.

Test	Measuring unit	Control		Experimental		T value	Level sig	Type sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Nelson kinetic response test	Right	1.575	0.120	1.309	0.109	5.165	0.001	sig
	Left	1.673	0.179	1.338	0.077	5.414	0.000	sig
Stability wide jump test		1.453	0.115	2.045	0.196	8.202	0.005	sig
Bounding test for maximum distance in (10) seconds		39.232	1.227	43.797	3.429	3.963	0.000	sig
Test the speed of the legs movement in the horizontal direction	Right	27.30	1.567	29.40	2.319	2.373	0.000	sig
	Left	27.10	2.233	28.20	1.549	280.2	0.000	sig

**Table 4:** Shows the values of the arithmetic means, standard deviations, the calculated and tabulated T-values, and the significance of the differences for the control and experimental groups for the skill tests in the post-tests.

Tests	Control		Experimental		T value	Level sig	Type sig
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Shooting test (6)	5.80	1.686	10.70	2.263	5.490	0.000	sig
Test passing towards a small target from a distance of (10)m	3.50	1.080	5.40	0.699	4.670	0.000	sig
Rolling test for a distance of (20) m and back	10.48	0.493	8.922	0.609	6.293	0.000	sig

**Table 5:** Shows the arithmetic mean of the difference between the arithmetic means, standard deviations, and the calculated and tabulated T-values between the results of the pre and post-tests of the concordance tests in the control and experimental group.

Groups	Test	unit	Measuring	arithmetic mean of difference	standard deviation of differences	T value	Level sig	Type sig
Control	Nelson kinetic response test	Right	Sec	0,007	0,006	1,16	0.20	Non sig
		Left		0,003	0,005	0,6	0.09	Non sig
	Numbered circles jumping test		Sec	0,014	0,009	1,55	0.06	Non sig
	Shuttle Run Test		Sec	0,018	0,008	2,25	0.12	Non sig
	Rolling, passing and shooting test (6)		Degree	0,30	0,22	1,36	0.121	Non sig
Experimental	Nelson kinetic response test	Right	Sec	0,008	0,0015	5,33	0.000	sig
		Left		0,010	0,0012	8,33	0.000	sig
	Numbered circles jumping test		Sec	0,018	0,0017	10,58	0.000	sig
	Shuttle Run Test		Sec	0,014	0,0019	7,36	0.000	sig
	Rolling, passing and shooting test (6)		Degree	0,40	0,026	15,38	0.000	sig

**Table 6:** Shows the values of the arithmetic means, standard deviations, the calculated and tabular (T) values, and the significance of the differences for the two experimental and control groups for the concordance tests in the post-tests.

Test		Control		Experimental		T value	Level sig	Type sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
Nelson kinetic response test	Right	1.575	0.120	1.309	0.109	5.165	0.000	sig
	Left	1.673	0.179	1.338	0.077	5.414	0.000	sig
Numbered circles jumping test		1.453	0.115	2.045	0.196	8.202	0.000	sig
Shuttle Run Test		39.232	1.227	43.797	3.429	3.963	0.000	sig
Rolling, passing and shooting test (6)		27.30	1.567	29.40	2.319	2.373	0.000	sig

in rationing the training loads that are commensurate with the level of the research sample members. It was relied on the principles of training science in the formation of the training units used and included special exercises, which led to the development of the level as a result of what happened to the players of adaptation through the use of exercises, and this is what the researcher achieved through the use of rationing of exercises, especially by controlling the intensity of training.

In addition, the development in physical attributes has a clear impact on the development of the players' level in performing the skills in question by choosing to train on special exercises that fit the nature of the sample. Mukhtar, 1998, p. 46).

In addition, the exercises were similar to the situations and situations of playing, and this led to the development of the players even in matching their movements with the ball, and then performing the skills without errors, "the more attention is given to providing exercises similar to the position of the competition, the better the players can be taught the correct skill" (Rateb, 1997), p. 80). As for the control group, there was a development in the skills under study, but it did not appear statistically, as we note when comparing the arithmetic circles between the pre- and post-tests that the skills under research have developed even though the differences were random and the researcher attributes this to the ineffectiveness of the approach in developing the weaknesses of the players and then its reflection on their level in general.

Table 3 shows that there are significant differences between the results of the post-test for the control and experimental groups in all physical tests in favor of the experimental group. The researcher attributes this to: The effectiveness of the special exercises prepared by the researcher, which led to the development of the physical characteristics in question, which had a role in raising the level of the players, as the researcher used the load less than the maximum and had a prominent role in the development "as through the load less than the maximum, the stability of the level can be achieved without the occurrence of a burden Maximum physical and nervous performance on the athlete, and the maximum load is used in developing the types of physical performance associated with skill performance" (Ibrahim, 1998, p. 104).

The use of the repetitive training method also had an impact on the development of physical abilities related to speed, "the method of repetitive training is used to develop the anoxic processes associated with the development of speed" (Al-Rubaie and Al-Mawla, 1988, p. 93). As for Table 4, there are significant differences between the results of the post-test for the control and experimental groups in the skill tests and in favor of the experimental group, and the researcher attributes this to: The development of the physical and harmonious qualities that came as a result of using new special training exercises led to the effectiveness of the skill performance, which was developed in a correct and organized scientific manner that depends on the emphasis on the correct performance and acustoming the players to the appropriate quick action at the right time because of the importance of that, "as the player teaches to think and correct Quickly, slow thinking and hesitation allow the defending opponent to interfere to spoil the shot" (Mukhtar, Scientific Foundations in Football Training, 2001, p. 65). As well as the physical abilities, which were linked with the movements of lightness, balance and agility in special exercises, which worked to improve the speed of performance, which proved that special exercises are effective in developing physical and skill qualities.

As for table 5, the results showed that there was no development in the compatibility abilities of the control group, with a noticeable development for the experimental group. The speed of changing direction, whether the player is in the case of shooting or to help a colleague or to gain a distance from his speed during the attack and when performing different skills under different conditions requires adapting to changing situations" (Ibrahim M., 2004, p. 61).

Table 6 shows that there are significant differences between the results of the post-test for the control and experimental groups in the tests of all combinatorial abilities in favour of the experimental group. The researcher attributes this to:

The effectiveness of the special exercises prepared by the researcher, which led to the development of the compatibility capabilities under discussion, which had a role in raising the level of the female players. The female futsal player needs to adapt to the changing conditions in different playing situations. Adaptation is the individual's ability to change the conditions of his body or the speed of his direction, whether This applies to the whole body or part of it on the ground or in the air" (Abdul-Hamid and Hassanein, 1997, p. 81).

As for Table 7, which shows the matrix of correlation between combinatory abilities and basic skills under discussion, as the results showed a correlation between combinatory abilities and basic skills. The compound skill in futsal

football is the most common and used during the match. One series, whether with or without the ball, such as support, movement, deception and follow-up, which are skills that help the ball-winning game to perform the offensive compound skills easily, as most of the skills require combinatorial abilities to be purposeful and correct in different playing conditions, as the compatibility abilities "are what enables the individual to perform differently The technical skills of the colors of the multi-activity and constitute the cornerstone in the individual's access to the highest levels of sports" (Allawi, 1989, p. 25).

### Conclusions

- The conclusions reached by the researcher is that there is a noticeable development in the physical and harmonious abilities and the basic skills under discussion, in addition to the existence of a significant correlation between the harmonic abilities and some basic skills in futsal football.

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## Appendix 1

Shows the names of the experts

1. Prof. Dr. Sabah Qassem / football coach.
2. Prof. Dr. Asaad Lazem / football test and measurement.
3. Assist. Prof. Dr. Naji Kazem / football coach.
4. Assist. Prof. Dr. Fares Sami / Football Test and Measurement.

## Appendix 2

Shows the special exercises



