

### THE EFFECT OF SPECIAL EXERCISES USING ASSISTIVE TOOLS TO DEVELOP MOTOR BALANCE AMONG AL-ZAWRAA FUTSAL CLUB PLAYERS

# SamerSaad Ibrahim<sup>1</sup>, Asst. Prof. Dr. WesamNajeeb Asleawa<sup>2</sup>, Ehab Mohammed Farhan<sup>3</sup>

<sup>1,2,3</sup>University of Baghdad, Faculty of Physical Education and Sport Sciences, Iraq

# $\underline{samer.s@cope.uobaghdad.edu.iqwissam.n@cope.uobaghdad.edu.iqEHAB.MOHAMMED@uobaghdad.edu.iq} aghdad.edu.iq$

#### Abstract

This study aimed to identify the effect of special exercises using assistant tools to develop motor balance of the Al-Zawraa Club's players in futsal for 2022-2023 sports season, and this is done by applying these exercises on the research sample and identifying the level of improvement in this trait, as the researchers used the experimental approach It has a one-group design, as the exercises were applied using auxiliary tools to develop motor balance. The exercises took place over a period of 8 weeks, with two training sessions per week. The exercises took part of the training unit with a time of 12 minutes, which was immediately after the completion of the warm-up, and the results showed improvement Significant in the results of post-tests, and this is due to the use of special exercises.

#### Introduction

In order to excel in sports and reach distinguished levels globally, we see that developed countries give great interest in developing the capabilities of their athletes, and this is through scientific research, its methods, and the search for all innovative scientific means to achieve goals. Therefore, we find that sports levels have begun to develop clearly and in different ways. levels and for both genders in various sports, including football in particular, which has tended to follow modern scientific methods and techniques in training and education in order to bring female players to higher levels. Conducting scientific research is a clear and positive path to achieving success in a studied manner, as Samer confirms this. Saad (Saad, 2021, pp. 163-170) stated that obtaining the greatest amount of influence is done through tests to determine the starting point or the level of the real player.

The game of futsal is organized under the guise of football and is considered one of the games with many requirements and rapid changes that is distinguished by its quality and requires high abilities, which requires an ideal preparation suitable for all abilities and capabilities so that the player can respond optimally during the match, and given that the game of football The halls are characterized by speed during the many transformations and rebounds that occur in the game, and of both types, offensive and defensive transformation. The player must have a high ability to control his body and balance in the various movements, that is, have motor balance while performing tactical actions and motor skills specific to the game (Abdul Kareem, M. , &Qasim, 2023)

What is meant by motor balance is the ability to maintain a certain position of the body during stability or movement. Balance is also considered the ability of a person to maintain his body or

its various parts in a certain position as a result of the complex harmonic activity of a group of vital organs and systems directed to work against the effects of gravitational forces (Ali, 1999, p. 151)

(Ihsan, Sharif; Kamal Mira, 1995, p. 305) point out that the ability to balance, whether static or dynamic balance, depends on the level of efficiency of the vestibular system in the inner ear, as well as the motor sensory center in the muscles, tendons, and joints, and the characteristics of visual perception. Therefore, sensation depends. By balancing on the vestibular system, which is one of the components of the inner ear. (Nazar, T., & Aladdin, 2018)

(Laila Muhammad, Ahmed Al-Shahat, 1996) point out that there are several mechanical factors that affect balance, which are (the center of gravity, the weight of the body, the line of gravity, friction, the base of fulcrum, in addition to the level and type of resistance), and this is what one should pay attention to. The coaches work to develop it, and from here it became clear to the researcher, and through daily training with the female players, it became clear to the researcher that he is a coach for this category, and thus the importance of the research appeared in developing the motor balance of the Al-Zawraa Club players in futsal football, and this is what the researcher will go to develop, and through special exercises to develop the sensory centers and the system. The vestibular system is responsible for the balance organ of the inner ear and is responsible for sensing the body's position and thus maintains the body's balance in states of stability and movement. (Tawfeeq, A., & Jalal, 2019) and (Hashem&Qasem, 2021)

From this idea, the researcher set the research objectives, which are to design special exercises using training methods and tools to help develop motor balance and identify the level of motor balance for female futsal football players of Al-Zawraa Sports Club, and from previous studies that were reviewed in order to benefit and learn more about the nature and nature of the study kitten. (Easa et al., 2022), as the researcher reviewed the study of (Kamal Kahli, Wadh Ahmed, MaqdasMawli, 2016), as the study showed that there is a significant correlation between motor balance and scoring accuracy, in addition to the presence of statistically significant differences in the characteristic of motor balance. As for the study (Muhammad, 2018, page 17), which reached a significant improvement in the level of balance among the players, this is due to the effectiveness of the training program used, and by reviewing the study (Al-SajjadRaadKhanjar, Muhammad Mahmoud Kazem, 2022, page 591), which reached the development Motor abilities through training units of varying intensity. (ALTOOHAFI, Sajjad, & Abdullah Falah, 2023) From the previous studies and scientific opinions mentioned above, the researchers aim to apply

From the previous studies and scientific opinions mentioned above, the researchers aim to apply exercises for using auxiliary tools to develop motor balance among Al-Zawraa futsal club players. (Kzar&Kadhim, 2020) and (Moayed, 2016)

#### Method and tools

The researchers used the experimental method in the style of experimental design for one sample with a pre-post test, as the sample is the part that represents the community of origin or the model on which the researcher conducts his overall and focused work (Luay Al-Sumaidaie et al., 2010, p. 14). The research sample was chosen intentionally, which It is the Al-Zawraa Women's Futsal Club team participating in the Iraqi Futsal League for the 2022-2023 season, which consists of 20 players. After extracting the exploratory experiment sample and also excluding the goalkeepers due to the different playing function on the field, the number of the sample in the final form is (14) players, representing... Percentage (28.57) as the researchers used a number of means of collecting information such as Arab and foreign sources, observation, courses, devices

and tests through which the researcher measured the research variables, as the researchers used the (Y) test for balance (Appendix 1) (Shaffer SW, Tezhen DS, Lorenson CL, Warren RL, Koreerat CM, Straseske CA Childs JD, 2013, p. 178) It is a device used to measure motor balance. The researcher used it to measure the balance of Al-Zawraa Club players, which is the focus of the study.

In addition, before starting the pre-tests, the exploratory experiment was conducted on 10/2/2022 on a research sample consisting of 5 female players, while the researcher began the pre-test on 10/6/2022, as the following trends for balance were measured.

- 1- Testing the maximum forward range of the right leg.
- 2- Testing the maximum forward range of the left leg.
- 3- Testing the maximum extent of the right leg backwards in the lateral direction.
- 4- Testing the maximum extent of the right leg backwards in the medial direction.
- 5- Testing the maximum extent of the left leg backwards in the lateral direction.
- 6- Testing the maximum extent of the left leg backwards in the medial direction.

The researchers began the main experiment, which is applying the special exercises (Appendix 2) to the research sample on 10/8/2022, with two training units per week, a total of (16) training units for the training program, and a time of (12 minutes) for the exercises from the time of the training unit, which is equivalent to a total. (192 minutes), which equals a total of (3.2) hours. While post-tests were conducted for the research sample after completing the exercises on 12/16/2023, the researcher used the necessary statistical methods through the statistical package (SPSS) in addition to using (Microsoft Excel) in Collecting and tabulating data and processing it statistically to extract results. All research procedures extended for the time period from 10/1/2022 to 12/25/2022.

#### Results

The research presented the results in the form of a table "because it reduces the possibility of error in the following stages of the research and reinforces it with scientific evidence and gives it strength" (Harrah, 1975). The researcher used the T-test for correlated samples to find out the differences between the arithmetic means and the standard deviations of the pre- and post-tests of the research sample to identify on the effect of the exercises used in the research

Adjective	Unit tests	Measurement -	Pretest		Posttest	
Aujeenve		wiedsurennent	S	А	S	А
	Maximum forward range for the right leg	Cm	56.06	5.59	83.80	8.43
Balance	Maximum forward range for the left leg	Cm	56.60	6.00	87.13	7.65
Dalance	The maximum extent of the right leg is backward in the lateral direction	Cm	76.33	10.60	91.20	7.41
	Maximum range of the left leg backwards in the lateral direction	Cm	77.40	11.08	91.73	10.72

**Table 1**Arithmetic means and standard deviations for the pre- and post-tests of balance for the legs (right and left)

The maximum extent of the right leg backwards in the medial direction	Cm	78.46	10.03	93.20	7.48
The maximum extent of the left leg backwards in the medial direction	Cm	77.40	10.30	90.11	10.40

**Table 1**The difference of the arithmetic means, the standard deviations, the calculated (T) value, and the significance of the differences between the results of the pre- and post-tests for the research group for the two men (right and left)

Adjective	Unit tests	Measurement	Calculated t value	Degree of freedom	significance (sig)	Significance level
	Maximum forward range for the right leg	cm	-11.27	13	0.000	0.05
	Maximum forward range for the left leg	cm	-14.65	13	0.000	0.05
	The maximum extent of the right leg is backward in the lateral direction	cm	-5.07	13	0.000	0.05
Balance	Maximum range of the left leg backwards in the lateral direction	cm	-3.79	13	0.002	0.05
	The maximum extent of the right leg backwards in the medial direction	cm	-4.39	13	0.001	0.05
	The maximum extent of the left leg backwards in the medial direction	cm	-4.38	13	0.002	0.05

Looking at Table No. (1-2), the results indicate that there are statistically significant differences between the pre- and post-tests in the balance variable for the research sample and in favor of the post-tests in terms of increasing the ability to balance for the six tests mentioned in the table above. (Fadel&Kadem, 2021)

The researchers attribute the development of balance to the independent variable, which is the exercises used during the two months in the research method, such as proper and regular training according to sound scientific foundations and using aids and training methods that suit the motor ability to be developed, which leads to improving balance and the ability to sense weight and the body's center of gravity, in addition to improving Compatibility between the working and antagonist muscles, which leads to improving the maintenance of the body's balance, as the

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hoops were exercised on an ongoing basis to develop the motor balance of the right and left legs on the outer side through repetitions. As for the balls used for balance, the exercises on them were stability and balance with the balls. He points out (Talha, 1997, pp. 206-207) and (Gree&Attiyah, 2022) The compatibility between the muscles involved in performance regulates close cooperation of work between those muscles that contract during performance and the opposite muscles that must be in a state of relaxation, which works to develop the ability to The muscles working to perform movements and skills with high efficiency and ability (Mondher, H.A., &Khalaf, 2023), and (HishamHamdan, Abdullah Ghazi, 2020, page 18) state that the effectiveness of special exercises for (foot work) is more effective in developing The motor capabilities and some basic skills of the players, in addition to that, NajiKadhim and others confirm (NajiKadhim, 2020, pp. 5927-5934)

Based on the above, it was found that the balance exercises used in the research methodology led to a relative improvement in the level of balance among the research sample. (JawadKadhim, M., &Mahmood, 2023)

#### Conclusions

- 1. The exercises used in the research on Al-Zawraa Club players have a positive effect in developing the players' motor balance.
- The device (Y for balance) used in the research has high-quality specifications in measuring balance in terms of anatomical trends.
- 3. Measuring the motor balance of Al-Zawraa Club players contributes to knowing the players' capabilities and dealing with them on this basis.
- 4. Increased interest in developing balance in general for male and female players in general.
- 5. Interest in using auxiliary training methods to help develop the abilities and other attributes of male and female players.

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#### Appendix No. (1)

#### Y test for balance

The Balance Y Test (Shaffer SW, Tezhen DS, Lorenson CL, Warren RL, Koreerat CM, Straseske CA Childs JD, 2013) is a dynamic test performed with one leg and requires strength, flexibility, and motor control. This test has been used to evaluate physical performance and show. Functional coordination this test also exposes the athlete to specific difficulty for the upper or lower extremities. There are two types of this test (the Y balance test) for the lower extremities, which measures the flexibility and balance of the lower part of the body.



#### **Device components**

- 1- A platform to stand in the middle on which the laboratory stands, made of wood, as in the figure above
- 2- Three rulers branch off from the central platform in three directions: the front, the right side, and the left side, in the shape of the letter Y.
- 3- On each measuring ruler there is a sliding wooden square in order to determine the distance

#### Appendix (2)

The exercises for using assistive devices were used at a rate of 5 exercises in each training unit, at a time of 2 minutes for each exercise, with rest breaks between the exercises.

The first training unit

No	the exercise	Performance time	Interstitial rest	Repetition	Exercise time	Rest between one exercise and another	Total time
1	Raise your knees while jumping on rubber balls	50/s	10/s	2	100/s	20/s	
2	Stand on one foot with arms open and balance (right)	50/s	10/s	2	100/s	30/s	
3	Standing on one foot with arms open and balancing (left)	50/s	10/s	2	100/s	40/s	12 min.
4	Walking in a straight line on the tiptoes	50/s	10/s	2	100/s	50/s	
5	Jump by raising your knees on a large rubber ball	50/s	10/s	2	100/s	60/s	

# The Fourth training unit

No	the exercise	Performance time	Interstitial rest	Repetition	Exercise time	Rest between one exercise and another	Total time
1	Stand with one foot on the combs and play and return the ball thrown by a colleague (right-left)	50/s	10/s	2	100/s	20/s	12 min.
2	Scale position (right - left)	50/s	10/s	2	100/s	30/s	
3	Stand on one foot	50/s	10/s	2	100/s	40/s	

	with a colleague and try to push with your hand once						
4	Sprint for 5m and then stop suddenly at the whistle	50/s	10/s	2	100/s	50/s	
5	Turningthenstoppingquickly(right - left)	50/s	10/s	2	100/s	60/s	

## Ninth training unit

No	the exercise	Performance time	Interstitial rest	Repetition	Exercise time	Rest between one exercise and another	Total time
1	Jump on a rope 15 cm high, then stop and balance	50/s	10/s	2	100/s	20/s	
2	Standing on a 10 m2 cube (right - left)	50/s	10/s	2	100/s	30/s	
3	Run to the rubber balls and stop	50/s	10/s	2	100/s	40/s	12 min.
4	Jumping on rubber balls back and forth	50/s	10/s	2	100/s	50/s	
5	Lateral running and jumping with stability (right - left)	50/s	10/s	2	100/s	60/s	

## The thirteenth training unit

						Rest	
		Performance	Interstitial	<b>_</b>	Exercise	between	Total
No	the exercise	time	rest	Repetition	time	one	time
						exercise	
						and	

						another	
1	Jumping open and wide, throwing the ball to a teammate and standing on one foot on the whistle	50/s	10/s	2	100/s	20/s	
2	Step three times and stand on the opposite foot	50/s	10/s	2	100/s	30/s	12 min.
3	Run to the rubber balls and stop	50/s	10/s	2	100/s	40/s	
4	Stand on the rubber ball	50/s	10/s	2	100/s	50/s	
5	Balance on a rubber ball	50/s	10/s	2	100/s	60/s	

# Sixteenth training unit

No	the exercise	Performance time	Interstitial rest	Repetition	Exercise time	Rest between one exercise and another	Total time
1	Standing on the harrows and trying to knock down the colleague	50/s	10/s	2	100/s	20/s	
2	Running with a sudden stop on one foot	50/s	10/s	2	100/s	30/s	12 min.
3	Hold the stick with both hands and try to balance on one foot	50/s	10/s	2	100/s	40/s	
4	Jump into the box and balance	50/s	10/s	2	100/s	50/s	

5	5	Lateral running, jumps, and jumps with stability (right - left)	50/s	10/s	2	100/s	60/s	
		lent)						