

## The Effect of Purposeful Training on the Special Endurance of the Skills Challenge Competition among Female National Basketball Team Players

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### Abstract

*The Basic Basketball Skills Challenge competition is one of the competitions that requires comprehensive preparations from its practitioners in all physical and skill aspects, as well as psychological and educational aspects. This is done by developing exercises in order to develop the players and raise their efficiency and potential. The basic problem for the coach is how to determine the effort and training doses and determine the size The intensity of the training load that the body can absorb without any side effects affects the success of the basketball player in acquiring, developing and stabilizing her skill abilities and choosing the training method in which there are rest periods appropriate to the type of effort exerted to develop the physical and motor capabilities to perform a series of basic skills in basketball.*

*Therefore, purposeful training was tried according to the energy production systems, the second voltage zone, from (30 seconds - 80 seconds) for each repetition, and the experimental method was used with the pre- and post-test for the experimental and control groups to suit the nature of the research. The research community was identified as players from the Iraqi women's national team for the 2023 sports season, and they numbered (10 players), the research sample was selected using a comprehensive enumeration method, and the sample was divided into two groups: the experimental group and the control group, with (5 female athletes) for each group. Special exercises were applied according to energy systems for a period of (12) weeks, with three training units per week. The statistical package (SPSS) was used, and the result was reached. Purposeful training according to energy systems has a positive impact on developing the endurance of female players in the Basic Basketball Skills Challenge competition, and this is what we seek to achieve one of the sustainable development goals, the third goal of good health and well-being.*

**Keywords:** *purposeful training, special endurance, basketball skills challenge competition.*

### 1- Introduction

The (FIBA) competition to challenge the basic skills in basketball is one of the sporting events that were introduced recently as a result of the conditions of the Corona pandemic, which is characterized by distance and lack of friction between players, and depends in its way of playing on the individual skills of the players and the speed of their performance, while making the maximum effort individually that stands out The player has high skills while playing.

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Where the faster the performance, the greater the need to understand and comprehend the movement and distinguish between what is important and what is more important, (2021:1) In light of this, the brain sends orders through the nerves to the muscles to carry out the motor duty and the correct behavior in a timely manner during competitions, (15: 2022, p52) And here comes the role of training to focus on exercises that have high speed and the ability to withstand that speed for a longer period during the game (2022:2).

Therefore, trainers and specialists strive to always reach high and advanced levels through training on organized and interconnected scientific foundations (2016:3).

The nature of this competition requires the players to perform a series of skills with accuracy in shooting and high sensory-motor awareness when dribbling the ball between the cones, while maintaining balance, fluidity and compatibility during fast performance and for a period of time that falls within the second effort zone that was determined by the two scientists (Fox and Matthews) according to energy production systems. The expense (ATP-PC LA) in the performance of each player, and here requires the players to have a high ability to continue performing sequential skills while maintaining the speed and accuracy of the performance.(4:2019.p111).

Because this competition is newly established and for the purpose of raising the level of female players, training must be undertaken as it is one of the most important means that brings female players to the highest levels. It is also necessary to follow useful and modern means and methods in accordance with the requirements of the game and its foundations in raising the level of technical, physical and tactical performance in order to reach the sporting achievement that satisfies the coach's ambition. And female players together (16:2020, p135).

A comprehensive view of the field of play in the Basketball Skills Challenge competition is very important and the player must possess it in general in order to increase the speed of playing performance during the competition and maintain that speed until the end of the competition at the same level. Therefore, specialists and experts strive to reach the highest advanced levels through training on Organized and interconnected scientific foundations in training units, (2008:5).

Previous studies (Fatima et al.) indicated that purposeful training, which includes a combination of exercises, can develop the physical, motor, mental, and skill aspects (2017:6), and this combination brings together the most types of speed, skill, or ability in one exercise. Speed in the Basketball Skills Challenge competition does not only mean running speed, but rather using it as a tool to solve the challenges facing the player during the real situation of the competition. Training physiologists divide speed into three types, which are (mental speed, physical speed, and playing speed). (2015:7) Therefore, the players of the skills challenge competition must act successfully and correctly and minimize mistakes.

Based on the above, the importance of the research is evident through the interest in the special endurance in the basic skills challenge competition among the players of the Iraqi national basketball team through the development and experimentation of scientific and modern methods in training that suit the foundations and nature of the basic skills challenge competition in basketball among the players of the Iraqi national team from During purposeful training according to the second effort zone of the energy expenditure system, the study aimed to prepare purposeful exercises in developing the special endurance of female players to challenge basic skills.

## 2- Method of research procedures:

### 2-1 Curriculum and Sample:

The experimental method was used in a controlled manner, with two equal groups (the experimental group and the control group) with a pre-test and a post-test to solve the research problem. The research population was identified as the players of the Iraqi women's national team for the 2023 sports season, and they numbered (10) players. The research sample was selected using a comprehensive enumeration method and the sample was divided into two groups, the experimental group and the control group, with (5 players) for each group and with a normal distribution, and Table (1) shows The value of the skewness coefficient is limited to  $\pm 1$ , which indicates that the population is moderately distributed.

Table (1) shows the normal distribution of the research sample

The Variables	measuring unit	Arithmetic mean	Mediator	standard deviation	Torsion modulus
The height	meter	160.21	160	1.51	0.645
The weight	kg	58.13	85	1.78	0.754
The age	year	20.13	20	1.55	0.577

### 2-2 Devices, tools and means of collecting information:

-Arabic and foreign sources and references.

-Colored and adhesive tapes.

Wooden flats.

-Barriers (10) and ropes (10).

-Casio electronic stopwatch.

- Legal basketball balls (10).

-Legal basketball court.

Four barriers.

-Leather measuring tape (20 m).

- Two chairs.

-whistle.

- Personal mobile device (HP laptop calculator).

-A device for measuring height and weight.

-Canon digital camera of Chinese origin with (25) images/second.

### 2-3 Skill performance endurance test: (8:2012, p60)

Purpose of the test: To measure the ability to withstand receiving and high pitch ending with a straight shot.

procedures:

- Determine a central point at the bottom of the basket that can be used to mark the main points.

Two points are determined, the first of which is in front, at a distance of (8.35 m) from the central point, and the second is on the far left side, at a distance of (7.79 m) from the central point, which in turn is away from the side line (1 m), and they represent the stance of the tested player.

- Placing four barriers (the height of the column for each of them is 2 m, and the barrier hanging on each of them is 100 cm long from the top and 50 cm wide), two of them at a distance of (75 cm) and facing the tested player, and the other two to the right and left of the central point inside the area at a distance of (3.25 m, 2.21 m) respectively.

Place a sign (50 cm) from the end of the free-throw line (left side of the central point) to separate the tested player from entering the area from both sides (left and right).

- Two points are determined, the first of which is in front and at a distance of (8.35 m) from the central point, and the other is on the far left side, at a distance of (7.79 m), which is away from the side line (1 m), and they represent the pause of a member of the work team who delivers the ball to each point.

#### Performance Description:

- The tested player stands on the first (front) point indicated on the ground, and at the same time two members of the work team stand with the ball on the two specified points.

At the start signal (whistle), the ball is delivered (chest handling with two hands) from the right side of the tested player who performs receiving and high patting directly towards the basket and to the right of the person present to perform peaceful shooting for one attempt (delivery is from the right side), and then move to the second point (Side) to perform another attempt towards the basket and to the left of the existing figure (delivery is from the front point), and then return to the first point (front) to complete the six attempts in the same way and alternately.

The tested player performs eight attempts, divided into (four attempts from the first point and four attempts from the second point, alternately).

#### Test conditions:

- Speed in performance, and helping the tested athlete (alert) to perform the attempts from her designated places. A member of the work team standing to the left of the tested athlete alternately delivers (4) balls and (4) balls to a member of the second work team standing to the right of the tested athlete. According to the description of the performance, observing the correct steps and the correct arm for shooting safely, each player has only two incorrect attempts.

#### Test administration:

-Timer: It gives the start signal as well as calculates the time it takes to perform the test.

Recorder: Calls names first and marks each of the successful and failed attempts and the time second.

#### Grade calculation:

The time is calculated from the time the tested player receives the ball until the end of the tenth attempt after the ball leaves the hand of the tested player.

-Divide the time by (60 seconds).

-A score is calculated for the player for each successful jump shot.

-The player will be credited with zero marks for every failed jump shot or incorrect performance.

-Collecting (accuracy) scores for successful attempts.

-The total (final) score: dividing the accuracy result by time.

#### 2-4 Exploratory experience:

Two exploratory experiments were conducted, one of them for the special endurance test, on Saturday corresponding to (4-2-2023) at ten o'clock in the morning, on the exploratory

research sample, which consisted of (4) players, in order to find out the obstacles that the two researchers face when applying the experiment and choosing the appropriate place and time for its application, and the efficiency of the tools used And the way it is formed.

And the second trial of the tests on Monday corresponding to (6-2-2023) at ten in the morning on the exploratory research sample, in order to know the obstacles that may appear when applying the tests and addressing them.

The main experiment included:

First/The pre-test: The pre-test was conducted on the experimental and control research samples on Sunday, February 12, 2023 at ten in the morning in the International People's Hall in Baghdad, after a warm-up was conducted for the members of the two research samples, and all temporal and spatial conditions were fixed for the purpose of unifying them with the post-tests. .

After randomly distributing the research sample, the experimental and control groups were equal in the pre-test, as shown in Table (2), which indicates the equality and homogeneity of the two research samples.

Table (2): The equality of the experimental and control groups in the T-test and their homogeneity are shown by Levene's coefficient in the special endurance pre-test.

Special performance bearing test	unit	Measuring unit		experimental group		Controls		Levene's Test	Sig (2-tailed)	T- Test	Sig (2-tailed)	Significance level	Significance of differences
		Mean	Std. Deviation	Mean	Std. Deviation								
degree		4.7	0.15	1.49	0.27	1.49	0.256	0.429	0.680	0.05	Randomization		

Second: Applying targeted training according to the second effort area:

After purposeful exercises were prepared, which include (merging moving balance exercises with sensory-motor perception and skill performance) according to the second effort zone of the energy production system and in one motor performance and implemented in the interval training method, the experimental research sample implemented three training units per week over a period of three months, i.e. (36) training unit. Purposeful training was carried out in the main section of the training unit, adopting the principle of gradation and undulation between exercises, between units and between training weeks, and alternating the work of muscle groups between one exercise and another.

In forming the training load, he relied on the table of Fox and Matthews (10:2013, p. 141-158) for interval training according to the second effort zone. This zone is located according to the lactic phospholipid system ATP-PC LA (this system is called anaerobic glycation in reference to the splitting of sugar in the absence of oxygen).

The performance time is from (30 seconds - 80 seconds), which includes two sessions of the first training session of (30 seconds and 40 -50 seconds) and the second Saturday of

(60 seconds - 70 seconds and 80 seconds), which is the period in which anaerobic activities occur at a rate of up to (90%) or more. .

The foundations for forming the training load based on the performance time in this system are explained as follows:

-If the performance time is 30 seconds, the repetitions are 5 times in 5 sets, the load size is 25 repetitions, and the rest periods are 3:1.

-If the work time is 40-50 seconds, the repetitions are 5 times in 4 sets, the load size is 20 repetitions, and the rest periods are 3:1.

-If the work time is 60-70 seconds, the repetitions are 5 times in 3 sets, the load size is 15 repetitions, and the rest periods are 3:1.

-If the work time is 80 seconds, the repetitions are 5 times in two sets, the load size is 10 repetitions, and the rest periods are 2:1.

The research sample implemented purposeful training in the main section of the training unit at the beginning of the main section.

The time of the training unit is 120 minutes, divided into (20 minutes for the preparatory section and 10 minutes for the final section) and 90 minutes for the main section, including (40-75) minutes depending on the goal of the training to implement the experiment (the independent variable) and the rest of the time to implement the components of the training unit from psychological, planning, and skill preparation. The control group carries out its normal training at the same time as the training unit and in the other part of the hall. The experiment began on (2-14-2023) and ended on (5-7-2023).

Third/post-tests:

After completing the implementation of the main experiment, post-tests were conducted on the experimental and control research samples on Monday, May 9, 2023, at ten in the morning, after a warm-up was conducted for the members of the two research samples. All temporal and spatial conditions were fixed for the purpose of unifying them with the pre-tests.

2-6 Statistical methods:

The results were processed statistically using the spss system and using the laws (- arithmetic mean - standard deviation - simple skewness coefficient - percentage law - Levene's test for homogeneity - t-test for two unrelated means - t-test for two related means).

### 3- Results and discussion

#### 3-1 Results

Table (3): Statistical parameters between the pre-test and post-test for the two research groups in the special stress test

Study groups	Mean		Std. Deviation	Mean	Std. Deviation	Samples Test	Sig (2-tailed)	Sig. level	Sig. difference
Experimental group	Pre test	4.7	0.15	2.88	0.16	39.192	0.000	0.05	Significant
	Post	7.5	0.16						
Control group	Pre test	4.6	0.27	1.48	0.37	8.941	0.001	0.05	Significant
	Post	6.1	0.13						

Table (4): Statistical parameters between the two research groups in the post-test of private endurance

Special performance bearing test	Measuring unit		experimental group		Controls		T Test	Sig (2-tailed)	Significance level	Significance of differences
	unit	Mean	Std. Deviation	Mean	Std. Deviation					
	degree	7.5	0.16	6.1	0.13					
						15.5	0.000	0.05	Randomization	

It was shown from Table (3 and 4) and Figure (1) that the experimental research sample developed better in the special endurance test than the control group, and the reason is due to the use of purposeful training carried out by the experimental group.

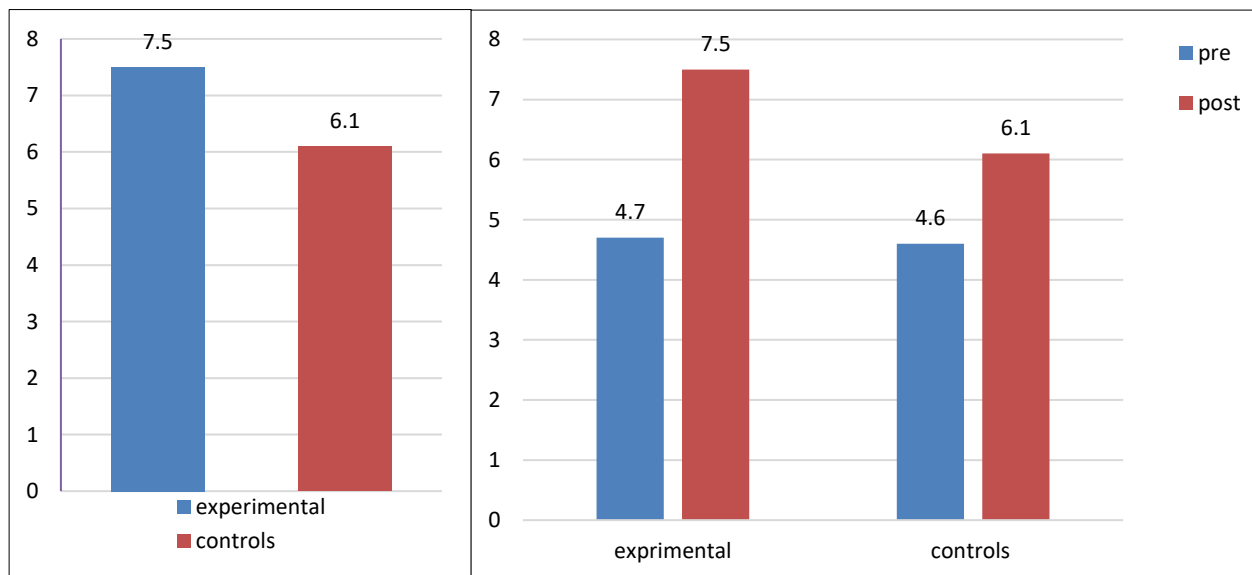


Figure (1): Differences in the values of the arithmetic mean of the two research groups

### 3-2 Discussion

By presenting the results, it was found that the experimental group had improved performance in the endurance test better than the control group, and the reason is due to the use of targeted training carried out by the experimental group, special exercises according to energy systems, in developing some basic skills for the players, challenging the basic skills of basketball, and the special exercises It increased the effect on enduring the skillful performance because it is one of the important aspects, but the main one for the players, because fatigue and the pressure of competition make the players lose their focus and then lose accuracy in the skill aspect as a result of the exerted effort (11: 2009.p 275-294), as we cannot expect a good game for the team without preparing good training because basketball is a arduous and violent sport, which requires that the players be characterized by high skill and physical fitness (223-23414: 2009, p). There are many teams with good skills, but they are unable to win because of The loss of their players'

physical fitness in the last quarter of the match, and other teams lack the element of accuracy in the skillful and tactical preparation, as they are incomplete in the physical aspect in general, which affects the offensive skills of basketball (12:2023.p316).

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Purposeful exercises work to develop the endurance of skill performance by maintaining the level of performance throughout the duration of the test performance on the one hand, and on the other hand, it connects the upper and lower limbs during performance, which had a major role in engaging more than one muscle group (13: 2002, p59). The development taking place in the receiving test and the high strike ending with the peaceful scoring test is composed of (3) basic skills.

The accumulation of motor experience gives the individual a great ability to determine the precise motor pathways within the central nervous system and then to comprehend and realize the complex compatibility of the motor duty (2019:20, p375) (which reflects positively on the perceptual ability to perform and implement the new motor duties in the best way and with the least time (2021:17, (p274), since the application and implementation of targeted exercises in the training process has recently become dependent on the use of various training tools and according to technology and modern techniques with the mixing of the implementation of exercises at a high speed, as it gives motivation and motivation during training and sets the desired goal in an easy and simplified way for the trainer And the player, (2022:18 p105), the exercises whose objectives are determined according to the energy production systems to develop the special endurance of the motor skills, their speed and accuracy give the coach sufficient information about the capabilities and capabilities of the player and the analysis and diagnosis of errors in the skill and physical performance and the ability of the coach to correct those errors. (19: 2022, p231), modern exercises, Which is based on the mixing and interaction of speed within one performance and with high awareness and during periods of time commensurate with the nature of skillful performance that contributes to increasing the athlete's response as a result of the direct impact of sensory and moral stimuli (4).

## **4- Conclusions and Recommendations**

### **4-1 Conclusions**

- The purposeful training and commensurate with the nature of the skills challenge competition in basketball achieved the purpose for which it was set and caused a clear development in bearing the special performance of the experimental research sample better than the control group.
- The training according to the energy production systems fit the time of its performance from the time of the basketball skills challenge competition and contributed effectively to the development of the endurance of the special performance of the players of the experimental research sample better than the control group.
- The work on the installation of exercises with goals that are commensurate with the nature of the sports event, with the selection of the energy system working in that event helps to achieve the required goals in sports training.



- The gradual training intensity used in the implemented exercises had a clear impact on the members of the research sample, in addition to the change and diversification between the exercises that affected the increase in the effectiveness of the training.

#### 4-2 Recommendations

-Working to introduce new training methods and methods while seeking to combine them in a way that serves the Basketball Skills Challenge Competition.

- Paying attention to the Skills Challenge Competition, as it is a rarely spread activity at the present time, and working to conduct other studies on it to develop the skills of the national team players.

- Emphasis and attention to purposeful training because of its impact on developing the endurance of the female national team players.

- Conducting studies similar to this method on samples of juniors, advanced players, or national team players.

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