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## The effect of kinetic balance exercises in developing the jumping and shooting skills of players under 16 years old in basketball

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### Abstract

The game of basketball requires comprehensive preparation in all physical and skillful aspects as well as tactical, psychological and educational aspects. This is achieved through the preparation of comprehensive training curricula in order to develop players, including young people, as they are the basis for achieving the best results and reaching a high level.

Through the experience of the researcher and his familiarity with some research and training curricula, he saw that these curricula and research did not allocate a large amount of their contents to the characteristic of carrying the combined offensive performance, as well as a lack of interest in this ability, which negatively affected the performance of young players for the skill (v.cat, receiving the ball, then shooting peacefully, Offensive reservation, receiving the ball and then peaceful shooting, deception from stability, receiving the ball and then shooting peacefully) a clear description when performing it, and therefore because this skill always leads to difficult conditions and the presence of a defender nearby, which negatively affects the results of the match. The aim of the research is to prepare complex exercises in developing offensive skills Vehicle for young basketball players. Identifying the impact of vehicle exercises in developing the jumping and shooting skills of players under 16 years old in basketball. As for the research hypothesis, the combined exercises had a positive effect on developing the offensive skills of the young basketball players. The researcher used the experimental method as a research measure commensurate with the research objectives.

The research community consisted of the Air Defense Club basketball players under 16 years old, who numbered 12 players, where the community was randomly divided into two groups (experimental and control), where the number of each group reached (6) players. Youth basketball for the experimental group and the control group. One of the most important recommendations is interest in developing physical abilities in a way that precedes and accompanies the development of offensive skills for young basketball players.

**Keywords:** Movement balance exercises, shooting from jumping skill, plump skill

### Introduction

The game of basketball is one of the team sports, which is one of the most popular games and ranked first in some countries of the world among its games, due to its wonderful mixture of technical performance and fast pace, which impresses the audience and its followers. Therefore, mastering these skills is one of the most important topics that concern those concerned with the game, and it has become a given that raising the training level of any player cannot be promoted, whether physically, tactically or psychologically, without learning the technical performance of all the basic and complex skills of the game, as it includes all vocabulary with different duties that are performed Within the framework of the law of the game, the proficiency of the members of any team in all forms of basic skills is one of the most important factors that lead to success and excellence. As there are no among these skills what is important and what is less important, because the player is in dire need of all these skills throughout the match, although he may not use some of them because of the playing situations that do not give him the opportunity to use them. Shooting from jumping is one of the important and difficult skills that are always in the presence of a defender and under circumstances The changing match, and here it should be noted the importance of the motor balance characteristic of the players when performing such a skill in order to maintain the position of the body and not cause mistakes that may deprive him of possession of the ball. Basketball.

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## Research Problem

The game of basketball requires comprehensive preparation in all physical and skillful aspects as well as tactical, psychological and educational aspects. This is achieved through the preparation of comprehensive training curricula in order to develop players, including young people, as they are the basis for achieving the best results and reaching a high level. Through the experience of the researcher and his familiarity with some research and training curricula, he saw that these curricula and research did not allocate a large amount of their content to the characteristic of motor balance, as well as a lack of interest in this trait, which negatively affected the performance of young players for the skill of aiming from jumping and a clear weakness when performing it, and therefore because this skill always slows down in difficult circumstances and in the presence of a defender nearby, which negatively affects the results of the match, so the researcher decided to enter into this study, which included putting motor balance exercises in developing the skills of clapping and shooting from jumping for young basketball players. as a serious attempt to raise the level of skill players.

## Research Objectives

Preparing kinetic balance exercises to develop the jumping and shooting skills of players under 16 years old in basketball.

1. Identifying the effect of kinetic balance exercises on developing the jumping and shooting skills of players under 16 years old in basketball Force search:
2. The motor balance exercises have a positive effect in developing the skills of plumping and shooting from jumping for players under 16 years old in basketball.

## Areas of research

The human field: Air Defense Club players under 16 years old in basketball.

Time range: 1/7/2022 to 30/9/2022

Spatial field: Martyr Hamza Nuri Hall in Babil Governorate

## Chapter two

### Research methodology and field procedures

#### Research Methodology

The researcher used the experimental method as a research measure commensurate with the research objectives

#### Research population and sample

The research community was determined and appointed by the Air Defense Club basketball players under 16 years old, who numbered 12 players, where the sample was randomly divided into two groups (experimental and control), where the number of each group reached (6) players.

#### Research tools, devices and means

##### Tools and devices used

- Legal basketball court
- Stopwatch (2)
- Sony electronic calculator
- Basketballs number (12)
- Ground balance hemisphere number (3)
- Sign number (10).

##### Means of data collection

- Arabic and foreign sources.

- Personal interviews.
- Measurement and physical and skill tests.

#### The tests used in the research

A test from the high-plump start by changing the direction between (6) characters (1:34):

- Purpose of the test: - Measuring the speed of churn by changing direction.
- The necessary tools: A basketball court, a measuring tape, two (2) basketballs, chalk, an adhesive tape of 1.50 meters in length as a starting line, and a whistle.

**Procedures:** Draw the dimensions of this test in terms of the locations of the six characters at the starting line, as follows:

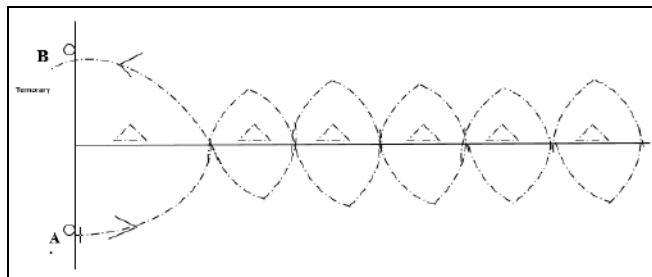
Place the sticky tape, which is 1.50 meters long, on the ground, then mark two points at the end of it, let it be (A and B). The first person is 1.50 meters away from the starting line, facing the starting line.

The first person is 2.40 meters away from the second person, and so on for the rest of the characters, so that the distance between the starting line and the sixth person is 13.50 meters.

Description of the performance: - The player, with the ball, takes the ready position from the high start behind the starting line at point (A).

Giving the starting signal to the player who is running with the tapping by changing the direction between the pillars, then the player runs around the last (sixth) pillar and continues to tap the ball by changing the direction while running until the player crosses the finish line at point (B) with the ball.

**Calculation of scores:** The player calculates the time it takes from the moment he is given the starting signal until



#### Shooting by jumping from the left of the free throw line, then moving in a circle to the middle and right (2:34)

- The purpose of the test is to measure the accuracy of shooting by jumping.
- The necessary tools: A basketball court, a measuring tape, 2 basketballs, a basketball goal, and chalk.
- Procedures: Draw three dots in the form of small circles with a diameter of 15 cm as signs indicating the three areas through which the test is performed as follows:
  - The first mark is to the left of the free-throw end line, 30 cm away.
  - The second mark is in the middle of the free throw line, 90 cm away from the free throw line, towards the three-point line.
  - The third mark is to the right of the free throw line, 30 cm away.
- Description of performance: The player takes a standing position in the specified place outside the free

throw area on the left side with the ball. The player performs the scoring by jumping with one hand towards the basket.

The player has 15 throws, which he performs in three groups, where each group has five throws

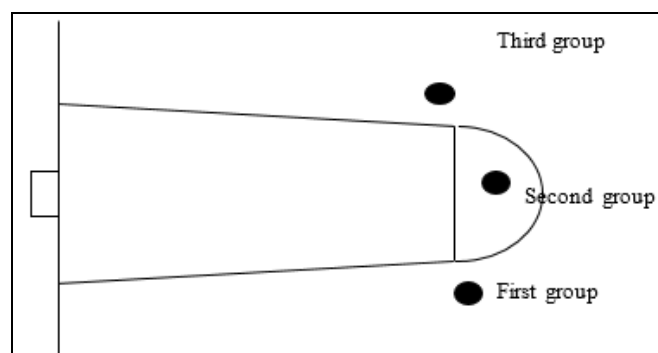
The first set is to the left of the free throw line.

The second group in the middle of the free throw line.

#### The third group is right of the free throw line.

- Score calculation: (2) points are calculated for the player when the ball enters the goal.

One score is awarded to the player for each throw in which the ball touches the ring and does not enter. A point is not counted for each ball that does not touch the ring at all.



#### Exploratory Experience

The exploratory experiment is usually conducted to identify the appropriateness of the tests, the level of response of the sample members to those tests, the time taken to perform the tests, and the training unit.

#### Major Experimental Procedures

##### Pre-tests

Within the pre-tests of the research sample, which were conducted at six o'clock in the afternoon on Saturday, corresponding to 2/7/2022, in Martyr Hamza Nuri Hall.

#### The training curriculum and its vocabulary

The researcher prepared a training curriculum based on the

foundations and principles of the science of sports training, by building load components of size, intensity and intensity, taking into account the age of the sample and its training age. The training curriculum was presented to experts and specialists in the field of sports training and basketball to approve its validity.

#### The time period is (6) weeks

- The number of units per week (3) units represented by days (Saturday, Monday and Wednesday)
- The total number of units for exercises (18) units
- The researcher used the high-intensity and repetitive interval training method using the stations method
- The time for performing the special exercises ranges between (20-30) minutes from the time of the section
- The intensity was determined in the exercises that contain strength endurance by the pulse (z/sec) and the exercises that contain the component of speed in time (m/sec).

#### Post-tests

After the end of the period prescribed for the training curriculum, post-tests were conducted for the research sample at exactly six o'clock in the afternoon on Sunday 25/9/2022, taking into account the commitment to the same conditions and procedures for performing the tests that were followed during the pre-tests. The researchers tried as much as possible to establish the conditions surrounding the tests. In terms of (time, place, tools used, method of implementation, work team) and making them similar in pre and post tests.

#### Statistical Methods (3:67)

1. Arithmetic mean
2. Mann and Whitney
3. The mediator
4. The interquartile deviation
5. Wilcoxon

#### Chapter three

##### Presentation, analysis and discussion of the results

##### Displaying the results of the tests of the jumping and shooting skills of basketball (for the experimental group)

**Table 1:** It shows the values of the median and the interquartile deviation of the pre and post tests and the calculated Wilcoxon value and its statistical significance for the results of the tests of the jumping and shooting skills of the jumping basketball and the experimental group

adjective skill	the test	Pretest		Post-test		Sample volume	Calculated Wilcoxon value	Wilcoxon tabular value	indication type
		Mediator	vernal deviation	Mediator	vernal deviation				
plump	Chump by changing direction (shuttle run)	10,18	0,90	8,25	0,71	6	8	3	moral
Aiming from jumping	Aiming from jumping	16.3	5.4	21.9	1	6	zero	3	moral

Significance level (0.025)

By looking at Table (1) for the plumpness test for the experimental group, we find that the pre-test had a median value of (10.18) with an interquartile deviation of (0.92), while the post-test had a median of (8.25) and a interquartile deviation of (0.71), and this indicates that there is differences between the two tests. To show the truth of these differences, the researcher used the non-parametric test (Wilcoxon's test) for analogous samples. And from it came

the value of Wilcoxon calculated (8) and at the level of significance (0.025) for a sample of size (6), so there are significant differences in favor of the post-test. As for the shooting test from jumping, in the pre-test the median value was (16.3) with an interquartile deviation of (5.4), while in the post-test the median was (21.9) and with an interquartile deviation of (0.98), and this indicates that there are differences between the two tests. To show the truth of these

differences, the researcher used the non-parametric test (Wilcoxon's test) for analogous samples. And from it came the calculated Wilcoxon value (zero) and at the level of significance (0.025) for a sample of size (6), so there are

significant differences in favor of the post-test.

### Displaying the results of the tests of the jumping and shooting skills of basketball (for the control group)

**Table 2:** It shows the values of the median and the interquartile deviation of the pre and post tests, the calculated Wilcoxon value and its statistical significance for the results of the jumping and shooting skills of the control group.

Adjective skill	the test	Pretest		Post-test		Sample volume	Calculated Wilcoxon value	Wilcoxon tabular value	indication type
		Mediator	vernal deviation	Mediator	vernal deviation				
plump	Chump by changing direction (shuttle run)	10,7	0,55	9,92	0,63	6	zero	3	moral
Aiming from jumping	Aiming from jumping	14.01	1.20	14	3.10	6	2,5	3	moral
Significance level (0.025)									

By looking at Table (2) for the plumpness test for the experimental group, we find that the pre-test had a median value of (10.7) with an interquartile deviation of (0.55), while the post-test had a median of (9.92) and a interquartile deviation of (0.63), and this indicates that there is differences between the two tests. To show the truth of these differences, the researcher used the non-parametric test (Wilcoxon's test) for analogous samples. From it came the calculated Wilcoxon value (zero) and at the level of significance (0.025) for a sample size of (6), so there are significant differences in favor of the post-test. As for the shooting test from jumping, in the pre-test the median value was (14.01) with an interquartile deviation of (1.20), while

in the post-test the median was (14) and the interquartile deviation was (3.10), and this indicates the existence of differences between the two tests. To show the truth of these differences, the researcher used the non-parametric test (Wilcoxon's test) for analogous samples. And from it came the calculated Wilcoxon value (zero) and at the level of significance (0.025) for a sample of size (6), so there are significant differences in favor of the post-test.

### Presentation of the results of the pre and post tests and the Mann Whitney value calculated for the results of the tests of the jumping skills and scoring skills of jumping basketball (the control and experimental groups)

**Table 3:** It shows the values of the median and the interquartile deviation of the post test and the calculated Mann Whitney value and its statistical significance for the results of the tests of the jumping and shooting skills of basketball (for the control and experimental groups)

skill	the test	the control group		experimental group		Sample volume	Calculated Mann-Whitney value	Mann Whitney tabular value	Indication type
		Mediator	vernal deviation	Mediator	vernal deviation				
plump	Chump by changing direction (shuttle run)	9,92	0.63	8.25	0,71	6	1.81	12	moral
Aiming from jumping	Aiming from jumping	14	3.10	21.9	1	6	4.12	12	moral

By looking at Table (3), which shows the value of the median and the interquartile deviation of the plump test and for both groups (control and experimental), in the post-test of the control group the median was (9.92) and with a standard deviation of (0.63), while the experimental group had a median of (8.25) With a spring deviation of (0.71), and to show the truth of these differences, the researcher used the non-parametric test (Mann-Whitney test). As for the shooting test from jumping and for both groups (control and experimental), in the post-test of the control group the median was (14) with a spring deviation of (3.10), while for the experimental group the median was (21.9) and with a spring deviation of (1) and to clarify the truth of these differences the researcher used the non-parametric test (Mann-Whitney test) and after performing the statistical treatment, the calculated value of Mann-Whitney was (4.12) at the level of significance (0.05) for a sample size of (6).

### Discussing the results

Through the previous incidents, it is clear that there is a development of the skill of clapping and shooting from jumping for young basketball players of the control and

experimental groups. The researcher attributes the reason for the development of the control group to the influence of the regular approach set by the coach, in addition to the continuity and regularity of the players in the training units. As for the development of the experimental group in the skill of clapping And shooting from jumping, so the researcher attributes the reason for this development to the development of the ability to balance the movement of the players, as the exercises are in line with the goal set by the researcher to develop offensive skills in basketball.

### Chapter Four

#### Conclusions and recommendations

#### Conclusions

#### Through the results of the study, the conclusions were

1. There is a development of the jumping and shooting skills of the young basketball players of the experimental group and the control group.
2. Through what the research results showed, there is a clear and real effect of kinetic balance exercises in developing the skills of hitting and shooting from jumping for players under 16 years old in basketball.

### **Recommendations**

Based on the previous conclusions, the researcher recommends:

1. Interest in developing the skills of jumping and shooting for players under 16 years old in basketball.
2. Interest in developing physical abilities in a way that precedes and accompanies the development of defensive skills for young basketball players.

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