

## The effect of compound exercises on developing the explosive power of the legs and some defensive skills for basketball players under 16 years old

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### Abstract

The purpose of this paper is to Preparing compound exercises for the explosive strength of the legs and some defensive skills for basketball players under 16 years old. Identifying the effect of compound exercises for strength characterized by speed and some defensive skills for basketball players under 16 years old. Identifying the effect of compound exercises on the explosive strength of the legs and some defensive skills for basketball players under 16 years old and the researchers used the experimental method, and adopted the method of working in the two equal groups (control and experimental) and conducting the pre and post-tests. The research sample was selected from the Al-Kahrbaa Sports Club players (junior category) under 16 years old. The results of the pre and post-tests of the sample were presented, analyzed and discussed through data processing. The researchers reached several conclusions that the compound exercises had a positive impact on the development of the explosive power of the legs for players under 16 years old. The compound exercises had a positive impact on developing the defensive skills in question (defending against shooting, defending movement, assisting and covering) for players under 16 years old, the researchers also recommended several recommendations, the most important of which are: the need to use compound exercises designed by the researchers in developing the explosive strength of the legs and the defensive skills in question. The need to use compound exercises, whether physical, skillful or motor, which help in one way or another to develop the variables that in turn help to develop skills.

**Keywords:** compound exercises, defensive skills, basketball, juniors.

### Introduction:

The game of basketball occupies a great place among the sports in the world, and even ranks first in some countries due to what this game contains of a wonderful mixture of speed of performance in the rapid and lightning attack, excitement and suspense in shooting points, as well as the skillful performance of the complex in moving within the field, which supports The tactical aspect, as it is one of the team games that requires privacy in its training, so it requires the player to acquire high physical capabilities as well as complex skill performance, and those skills often require a few time periods that only take several seconds and with high intensity, so the anaerobic systems are prevalent in the game of basketball, and on this basis this game needs to develop capabilities commensurate with the nature of its performance so that we make the player able to perform the four quarters with high efficiency and resistance to fatigue and maintain the speed of his

performance with maximum and sub-maximal intensity for the longest period in the match.

The physical capabilities, including the explosive power of the legs, have an important role in raising the level of physical competence for basketball players, especially the junior category, through which the player can master all technical skills in their optimal form, since the skills are considered one of the most important physical capabilities of basketball players, as they “work mainly in specialized sports.” For the individual, the muscles qualify mainly in the motor performance of the practiced sport, and the special strength raises the special physical level that the game needs, especially the participating or joint muscles during the stages of the motor performance of the game skills.

The great development that the basketball game has reached and the changes that occurred in the skills, especially the offensive ones, being a weapon to gain points, came as a result of following the accurate

scientific methods in training the players in an integrated manner to improve the level of physical performance and skills for them. The basketball game has to sound the alarm and pay attention to defensive skills in order to achieve balance and competition that gives the game or match suspense and excitement, and there are many variables that affect these skills. After the player followed the game of basketball in general and the youth category in particular, being like national teams and clubs at the level of age groups, he saw that there was a weakness in the defensive skills, which might be caused by the weakness of this mentioned physical characteristic. Therefore, he decided to design compound exercises that take into account the explosive strength of the legs in addition to skill. To be a test of performance, the researchers reviewed some studies that dealt with the use of various exercises in basketball and Other Games The first study: (Al-Hazeem. 2022) a study of the effect of competitive combined exercises on some bio-kinetic abilities and the composite skill performance of soccer players under 17 years old among its objectives is the preparation of competitive integrated exercises in some bio-kinetic abilities and composite skill performance for football players under 17 years old. The research sample, which was chosen by the intentional method, consisted of (30) Samarra Sports Club players, and the researcher applied the training program, which lasted (8) weeks, with a total of (24) training units. The researcher concluded that competitive integrated exercises are suitable for football players under 17 years old in the period of special preparation a second study (al-Ridha. 2010) dealt with study of the effect of plyometric exercises on some physical and anoxic abilities and complex offensive skills of basketball players aged (18 years and under), as the study aimed to prepare physical exercises in the plyometric style for young basketball players At ages (18 years and under), as the researcher used the experimental method in the manner of two equal groups (an experimental group and a control group), and the sample consisted of (20) players (Explosive power of the legs, power characterized speed) of the muscles of the arms and legs between the pre and post-tests for both the experimental and control groups. A third study (Al-Dalawy. 2006) aimed at identifying the values of the special strength of the muscle groups entering and contributing to the performance of the crushing serve skill in volleyball, which concluded that the index of the special strength of the muscle parts entering and contributing to the technical performance of the crushing service skill represented by the explosive great power and the

marching force The speed of the physical parts involved in the performance of the skill has a positive effect, the need to pay attention to training the muscle strength of the crushing serve skill from jumping volleyball, such as the explosive power of the legs and the power distinguished by speed and great power. Defensive training for basketball players, as compound exercises are a modern trend that is characterized by presenting a greater challenge to the training difficulties than the methods used within the training dose, which makes its application in a scientific and studied manner in the development of basketball and the advancement of the level of age groups (juniors) in the explosive power of the legs and some defensive skills.

#### **Research objective:**

- Preparing compound exercises for explosive power and some defensive skills for basketball players under 16 years old.
- Identifying the effect of compound exercises and some defensive skills for basketball players under 16 years old.
- Identifying the effect of compound exercises and some defensive skills for basketball players under 16 years old.

#### **Research hypotheses:**

- There are statistically significant differences in the explosive strength tests of the legs and some pre and post defensive skills for the control and experimental groups, in favor of the post.
- There are statistically significant differences in the explosive strength tests of the legs and some post-defensive skills for the control and experimental groups, in favor of the experimental one.

#### **Research methodology and field procedures:**

##### **Research Methodology:**

The researchers used the experimental approach to suit the nature of the problem, using the method of the experimental and control groups, and conducting the pre and post-tests.

##### **Community and sample research:**

The research community was identified and represented by the players of Baghdad clubs for juniors under (16) years for the season (2022-2023), whose number is (78) players with (7) teams. As for

the research sample, it was chosen from the (Al-Kahrbaa) team, as the researcher chose the electricity club as a sample. For the research, the number of (14) players were randomly divided into control and experimental, so that the sample becomes (7) players

for each group. As for the exploratory sample, it consisted of (5) players from the same main sample, and randomly. Thus, the total sample became (14) players and the table (1) Shows community and sample details and percentages.

Table 1 shows the details of the community and sample

No.	Team Name	Number
1	Al-Kahrbaa	14
2	Oil	11
3	Alshorta	10
4	Al-hashd Alshaabi	12
5	Djla	10
6	Karkh	10
7	Air Defense	11
78		
Sample	Number	proportion of the sample
Total	14	%16.09

**Research sample equivalence:**

Equivalence was conducted between the control and experimental research groups in tests of the explosive

strength of the legs and some defensive skills in basketball, and the (T) test was adopted to indicate the differences between the two groups, as shown in Table (2).

Table (2) shows the equivalence of the two research groups in testing the explosive power of the legs and some defensive skills

Statistical parameters test	Groups	Pre-test		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation			
explosive power of the legs / cm	Experimental	41.0000	2.16025	-0.141	0.890	Non sig
	control	41.1429	1.57359			
defending against shooting / time	Experimental	10.9371	1.29170	-2.166	0.051	Non sig
	control	12.6043	1.57434			
defending movement / time	Experimental	15.5086	1.30436	-1.355	0.200	Non sig
	control	16.3657	1.04900			
assisting and covering / time	Experimental	10.7929	1.65789	-0.729	0.480	Non sig
	control	11.3643	1.24786			

The researchers used the means of collecting information, devices, and tools represented in the sources, references, personal interviews, data registration form, and a questionnaire of experts' opinions on the research variables.

**Field research procedures:**

**Identifying variables and testing them for basketball players:**

After reviewing the scientific sources and references and conducting personal interviews with experienced and specialized persons, the research variables were determined, namely the explosive

power of the legs, as well as some defensive skills in basketball.

### Test the explosive power of the legs for the legs

- Test Name: Vertical Jump from Standing (Hassanein, 1987)
- The purpose of the test: measuring the explosive power of the legs for the legs.
- Equipment and tools used for measurement: a metal tape measure - a wall of suitable height - a chair - chalk - a recorder - a registration form.
- Performance specifications: The player stands facing the wall with the shoulder of the arm holding a piece of chalk, which he raises high along its entire length to make a mark on the wall at the furthest point it reaches, then he bends the knees, swinging the arms in front high while extending the knees to jump up to make another mark at the furthest point it reaches to the hand while jumping.
- Recording: The distance is calculated between the first mark (from standing) and the second mark (from jumping), and the player is given three attempts to score the best of them.

Note: The heels must not be lifted off the ground when making the first mark

### Selection of research tests for some defensive skills in basketball (Ali, 2012).

- Test Name: Defending Against Shooting.
- The purpose of the test: to measure the speed of the performance of defense against shooting.
- Tools used: adhesive tape, leather measuring tape (20 m), indicator number (2), columns number (2), electronic stopwatch, whistle, two basketballs, papers and pens for recording.
- Test procedures (see Figure 1). Four signs distributed as follows: The first and fourth marks are along the point below the basket, the center of the throat, on the ground on both sides, and each of them is (2.45 m) away. The second and third marks are along the free throw line at the arc of the far aiming line, and each of them is (5.80 m) away from the final line, as shown in the figure.
- Description of the performance: the player stands facing the first mark (sign 1), and upon hearing the start signal through the whistle, the player runs towards the second mark to prevent shooting, then performs the movement of the defending player towards the fourth mark, and then runs towards the third mark to prevent shooting, then perform the movement of the defending player towards behind (sign 1), as shown in the figure in the four steps.

- Test conditions:
  - Execute test steps quickly.
  - Ball bearing poles
  - Touch the ball by extending the left arm and stopping hesitantly with the feet before mark (2), taking into account that the left foot goes forward.
  - Touch the ball by extending the right arm and stopping hesitantly with the feet before mark (3), taking into account that the right foot goes forward
  - Repeat the performance twice
  - Just one try.
- Tools of Test :
  - Timer: Giving the start and end signal through the whistle with the timing.
  - Recorder: Calling rolls and noting performance while recording test time.
- Score Calculation: The player records the time it takes to perform the test in steps (4×2) based on the start and end whistle.

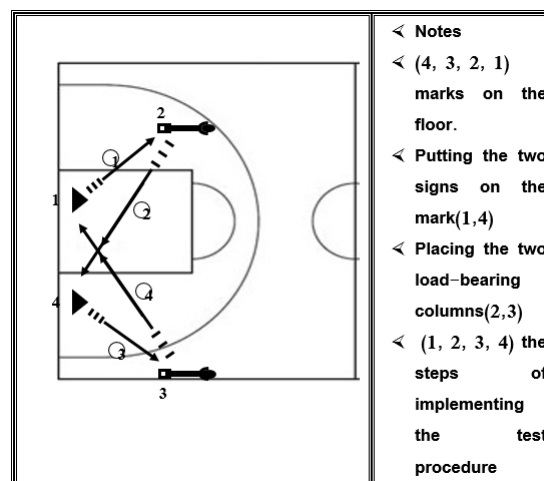


Figure (1) shows the defense against shooting test

### Defender movement:

- The purpose of the test: to measure the speed of the defending player's movement performance.
- Tools used: adhesive tape, leather measuring tape (20m), indicators (3), electronic stopwatch, whistle, papers and pens for recording.
- Test procedures (see Figure 2).Four signs distributed as follows: The first mark is the center of the throat on the ground, and the two marks (3 and 4) are 90 cm away from the lateral line on both sides and from the base line (8.325 m), and mark (2) is on the line of the middle of the central circle, as shown in the figure.
- Performance description: The defending player stands on the first marker, and upon hearing the start signal via the whistle, the player quickly runs

forward towards the second marker (signpost 1) and touches the marker with the right arm, then performs the movement of the defending player towards the third marker (signpost 2) and touches the marker with the right arm, and from Then a quarter turn inside with the movement of a defensive player towards the first mark, and then do the same work from the left.

- Test conditions:
  - Execute test steps quickly.
  - Bending the knees when performing the movement of the defending player, with the arms raised at least 90 degrees between the humerus and the torso.
  - Just one try.
- Test administration:
  - Timer: Giving the start and end signal through the whistle with the timing.
  - Recorder: Calling rolls and noting performance while recording test time.
  - Score Calculation: The player records the time it takes to perform the test with his six steps using the start and end whistle.

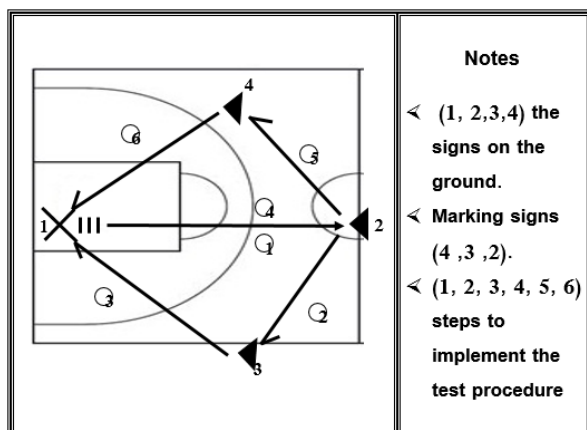


Figure (2) shows the defensive player's movement test

**Test Name: assistance and coverage test:**

- Purpose of the test: to measure the speed of assistance and coverage performance.
- Tools used: adhesive tape, leather tape measure, electronic stopwatch, whistle, papers and pens for recording.
- Test procedures (see Figure 3). Three marks are placed on the first and second ground, right and left of the far aiming arc, and along the free-throw line, one of which is 30 cm away from the arc, and the third mark is in the forbidden area, a distance of (2 m) from the inside free-throw line, as shown in Figure (3).

Performance description: A defending player stands on the first mark on the right, and at the signal to start with the whistle, the player moves a defensive player towards the third mark and back to the first mark, then a defensive player moves towards the second mark, then towards the third mark and returns to the second mark and then the first, as shown in the figure six steps.

- Test conditions:
  - Raise the arms high at least 90 degrees between the humerus and the torso, as well as bending the knees.
  - The performance is fast.
  - Just one try.
- Test administration:
  - Timer: Giving the start and end signal through the whistle with the timing.
  - Recorder: Calling rolls and noting performance while recording test time.
  - Score calculation: calculates the time for the six steps (starting and ending whistle).

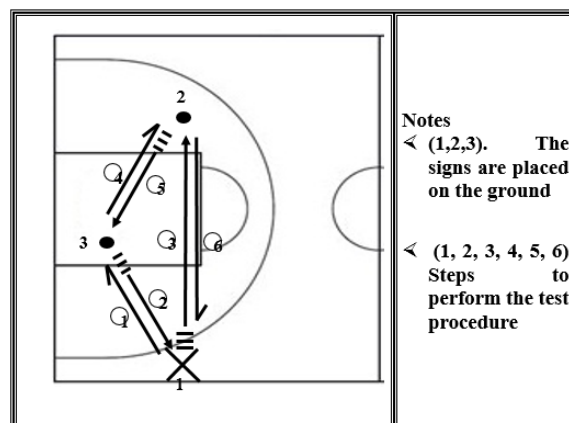


Figure (3) shows the assistance and coverage test (2min)

**Exploratory experiments:**

**First Exploratory experience:**

The researchers conducted the first exploratory experiment on a sample of the research representing (5) players from the main sample on (2/1/2023).

The purpose of conducting it was as follows

- Ensuring the efficiency of the researcher's assistant work team.
- Ensure the validity of the devices and tools used in all research variables.
- Ensure the appropriateness of these tests to the level of the research sample.

- Identifying all possible obstacles and difficulties that may arise and trying to overcome them.
- Identify measurement errors, rectify, and correct them.

**Second Exploratory experiment:**

On (10/1/2023), the researchers conducted a second exploratory experiment by applying a training unit to identify the validity of the compound exercises designed by the researcher, as well as the appropriate time to perform each exercise, while calculating rest and returning to a pulse (120).

**Pre-tests:**

The researchers conducted pre-tests for the explosive power of the legs and some defensive skills, with the help of the assistant work team, on the control and experimental research samples and on the People’s Sports Hall on (20/1/2023), as the researchers conducted the tests on one day only.

**Compound exercise design:**

After the researchers conducted the pre-tests, he began to implement the exercises, as the duration of the exercises set in weeks was (3) weeks, the total number of training units is (9) training units, the number of weekly training units is (3) units, and the weekly training days are Saturday - Monday - Thursday ) and the training method used is high-intensity interval training and the duration allocated for the implementation of the exercises (35-40 minutes) and in light of this, the proposed exercises and auxiliary training methods were developed for the purpose of their correct and successful development, and the work of the researcher during the application was supervisor only without interfering with the work of

Table (3) shows the statistical description of the explosive power test for the legs and some defensive skills in pre basketball for the experimental research group

No.	Variable	Measuring unit	Pre-test		Median	Skewness
			Arithmetic mean	Standard deviation		
2	Explosive power	Cm	41.0000	2.16025	41.0000	0.000
5	Defending against shooting	Time	10.9371	1.29170	10.5600	1.280
6	Defending movement	Time	15.5086	1.30436	15.5600	0.080
7	Assisting and covering	Time	10.7929	1.65789	10.6400	0.112

the trainer, and the gradation took place The intensity of the exercises in the training units, Appendix (1), according to the ability of the players, from easy to difficult, and the intensity ranged between (85-90%).

**Determining the training stresses used in the exercises of the experimental research group through a set of equations used by the researchers.**

- Calculating intensity in speed = best achievement x 100 / required intensity.
- Calculating the intensity by means of the maximum pulse, the researcher adopted the formula: (maximal pulse = 220 - age).
- The size of the exercise can be (repetition) or (time), and the researcher relied on determining the size of the exercises on the basis of the repetitions performed and the time of the exercise.
- Observe the gradual progression of the exercises from easy to more difficult.
- Taking into account the fluctuation in training, ie work to rest in the exercises.
- Emphasis on performing warm-up and stretching exercises for muscles and joint flexibility at the beginning of each training unit.

**Post-tests:**

After completing the total number of training units in the period allotted for the research, the researchers conducted the post-tests, taking into account the circumstances in which the pre-tests were conducted, as the post-tests were conducted on (10/3/2023).

**Statistical methods:** The search data was processed through the Statistical Package for the Social Sciences (SPSS).

**Results and discussion:**

Table (4) shows the statistical description of the explosive power test for the legs and some defensive skills in basketball for the experimental research group

No.	Variable	Measuring unit	Post-test		Median	Skewness
			Arithmetic mean	Standard deviation		
2	Explosive power	Cm	57.2857	1.97605	58.0000	-.007
5	Defending against shooting	Time	9.4257	.39711	9.3400	.315
6	Defending movement	Time	12.3657	1.58337	12.5600	-.419
7	Assisting and covering	Time	7.5057	.50454	7.5300	.112

The results of tables (3, 4) indicate that there is a difference in the values of the arithmetic means between the pre and post-test, as these differences in the post-test were directed by the values of the

arithmetic means and the significance value; therefore, the researcher used the T-test to identify the significance of the differences.

Table (5) shows the mean, deviation, mean difference, deviation difference, standard error of the differences, the value of ((T) calculated, and the significance value of the pre and post-test for the explosive power tests of the legs and some defensive skills in basketball, before and after the experimental research group

Variable	Tests	Arithmetic mean	Standard deviation	Mean difference	Deviation difference	T value	Level sig
Explosive power	Pre	41.0000	0.81650	16.28571	1.47542	11.038	<b>0.000</b>
	Post	57.2857	0.74688				
Defending against shooting	Pre	10.9371	0.48822	1.51143	<b>0.45720</b>	3.306	0.016
	Post	9.4257	0.15009				
Defending movement	Pre	15.5086	0.49300	3.14286	<b>0.79966</b>	3.930	0.008
	Post	12.3657	0.59846				
Assisting and covering	Pre	10.7929	0.62662	3.28714	<b>0.60032</b>	5.476	0.002
	Post	7.5057	0.19070				

Significant < (0.05) at the degree of freedom (6) and below the level of significance (0.05).

**Discussing the results of the pre and post-tests of the explosive strength tests of the legs and some defensive skills in basketball for the experimental research group:**

From the results of Table (5), we find that the differences are significant for the experimental group between the pre and post-tests. The researcher attributes the reason for the improvement of the post results to the great role of the exercises that the

researchers developed, which led to positive results, as they are exercises prepared on healthy scientific bases through the development of exercises that focus on directly on the explosive power of the legs and the defensive skills. The researchers also worked to raise the level of excitement and excitement among the players and increase their impulsiveness towards training. As a result, all of this leads to the possibility of developing the explosive power of the legs and the defensive skills in question. "Training is in harmony with the capabilities of the players, the organization of the training place, and the preparation of the necessary supplies in a good way, all of this leaves a positive impact on developing the capabilities of the players" (Al-Lami. 2012), with regard to the explosive strength of the arms and legs only, there was a noticeable development, and the reason is due to the effect of the physical exercises that the researcher used in the training units represented by medical balls for the arms, as well as jumping forward exercises, as well as

the use of partridge exercises on one leg for a specific period of time, as these exercises were specific and directed at the muscles This led to its development in a way that helps to perform the duties required of these muscles "The training that is directed at training a specific muscle group leads to development in it" (Qaddumi. 1998). And that the researcher used these types of exercises because of their positive impact on the development of the muscles of the legs, "the basketball player needs great strength in his legs that do not require it in the same proportion in his arms, and the importance of developing the explosive strength of the arms and legs of basketball players appears through the participation of players in jumping ball as well as In following the rebound ball from the goal, whether it is offensive or defensive, as it appears through shooting, by jumping, because the player who has good explosive power, he can perform the skills that can be performed in matches. (Hashem. 2006).

Table (6) shows the statistical description of the explosive strength tests for the legs and some defensive skills in pre basketball for the control research group

No.	Variable	Measuring unit	Pre-test		Median	Skewness
			Arithmetic mean	Standard deviation		
2	Explosive power	Cm	41.1429	1.57359	41.0000	0.755
5	Defending against shooting	Time	12.6043	1.57434	11.6500	0.452
6	Defending movement	Time	16.3657	1.04900	16.7800	-1.507
7	Assisting and covering	Time	11.3643	1.24786	11.6200	-0.532

Table (7) shows the statistical description of the explosive power test for the legs and some defensive skills in post-basketball for the control research group

No.	Variable	Measuring unit	Post-test		Median	Skewness
			Arithmetic mean	Standard deviation		
2	Explosive power	Cm	48.8571	6.54290	48.0000	-0.044
5	Defending against shooting	Time	10.7514	1.41417	11.3400	-0.612



6	Defending movement	Time	14.0800	1.04034	13.9900	0.285
7	Assisting and covering	Time	9.2200	.96943	9.5700	-0.040

The results of tables (6, 7) indicate that there is a difference in the values of the arithmetic means between the pre and post test of the control group, as these differences in the post test were directed by the

values of the arithmetic means and the value of significance; Therefore, the researcher used the T-test to identify the significance of the differences.

Table (8) shows the mean, deviation, mean difference, deviation difference, standard error of the differences, the value of ((T) calculated and the value of significance to test the explosive power of the legs and some defensive skills in basketball before and after the control research group

Variable	Tests	Arithmetic mean	Standard deviation	Mean difference	Deviation difference	T value	Level sig
Explosive power	Pre	41.1429	1.57359	7.71429	2.50442	3.080	.0220
	Post	48.8571	6.54290				
Defending against shooting	Pre	12.6043	1.57434	1.85286	.89940	2.060	.0850
	Post	10.7514	1.41417				
Defending movement	Pre	16.3657	1.04900	2.28571	.52164	4.382	.0050
	Post	14.0800	1.04034				
Assisting and covering	Pre	11.3643	1.24786	2.14429	.56962	3.764	.0090
	Post	9.2200	0.96943				

Significant < (0.05) at the degree of freedom (6) and below the level of significance (0.05).

#### Discussing the results of the pre and post-tests to test the explosive power of the legs and some defensive skills in basketball for the control research group.

The researcher attributes the level of significance obtained for the control group to the use of exercises prepared by the trainer and applied in the training program and the style of the trainer. What reinforces our words is the level of significance (0.5) in the tests (Explosive power of the legs, assist and cover) The subject matter of the research The researcher attributes to the effect of the exercises that played an important role in achieving a significant difference among the members of the control group by showing the best level both in the implementation of the vocabulary of the training program and tests and competition with the members of the experimental group and the repetitions that were given to the exercises were appropriate so that they led to the occurrence of

adaptation in the control group It also led to the development of their level of physical performance, as well as choosing the appropriate rest between the exercises that depended on the heart rate index, which is a physiological standard that has a great impact on controlling and controlling the performance of the players, whether it was physical, skillful, tactical, or different, as it should be appropriate. With the sample level and the time period allotted to it (Abu Zaid. 2007). When reviewing the time period that the training took, we find it appropriate for what was mentioned, in addition to the intensity used in the implementation of these exercises, it was appropriate with the specificity of each ability, as the capabilities used are characterized by high intensity, so high intensity and gradation were used when implementing physical exercises, which also contributed to the emergence of improvement this is what both (Hamdi and Muhammad) referred to, that "importance is given

to the intensity, size and comfort used so that it is commensurate with the level of the trained individual." (Krem and Almusawi .2021). While no significant differences appeared in the (defense against shooting) test, and the researchers believe that there was a development, but it did not reach the moral

level because it was not subjected to exercises that would raise these skills. The basketball when performing the different skills of the game, he jumps to shoot or follow up and runs with defensive foot movements and handles the ball.

Table (9) shows the mean, deviation, calculated (T) value, and the significance value of the post-test to test the explosive power of the legs and some defensive skills in post-basketball for the control research group

Statistical parameters test	Groups	Pre-test		T value calculated	Level Sig	Type Sig
		Arithmetic mean	Standard deviation			
explosive power of the legs / cm	Experimental	57.2857	1.97605	3.263	.007	Sig
	Control	48.8571	6.54290			
defending against shooting / time	Experimental	9.4257	0.39711	-2.388	.034	Sig
	Control	10.7514	1.41417			
defending movement / time	Experimental	12.3657	1.58337	-2.394	.034	Sig
	Control	14.0800	1.04034			
assisting and covering / time	Experimental	7.5057	0.50454	-4.150	.001	Sig
	Control	9.2200	0.96943			

Significant at level > (0.05).

**Discussing the results of the post-tests to test the explosive power of the legs and some defensive skills in basketball for the control and experimental research groups.**

Through table (9) it was found that the differences are statistically significant between the control and experimental groups in the post-tests in all research variables and in favor of the experimental group, and this means the positive effect of compound exercises had the main role in the process of making a difference between the two groups and because these exercises were consistent with the requirements of the game idea Basket is a game of time that requires speed and the exploitation of space to find an opportunity, whether for defense or correct movement, and that training is "one of the best methods to ensure continuous development and to make athletes able to reach higher sports levels through the development and development of the individual's physical, functional and psychological capabilities.... It is known The training of young people aims primarily to prepare them and prepare them to advance at their level according to the characteristics of the age stage"

(Shaghatai. 2014) . The researcher attributes this superiority to the experimental group, in that exercises, practice, and repetition may not be the effect of development. Many players spend their time in training, but to no avail, and that the basis for raising the level is the quality of exercise that achieves the goal, and this is provided by compound exercises and their organization according to scientific foundations. For training loads so that the athlete reaches adaptation to the performance time, then the training intensity is raised by performing repetitions in a shorter time with the use of means that put some difficulty in the exercise. Compound exercises are used by the coach. In order to prove the accuracy of the player's performance of the basic skills, especially those used in the match in abundance, and this is related to training in plans while working on developing the physical characteristics of the player, and since these exercises are complex, they also develop the player's motor compatibility. Through these exercises, the player can train on basic skills and at the same time train these exercises are based on focused requirements and duties, and these exercises are the basis for building the daily training unit, in which the

player performs the exercise by repeating the technical skill with attention to the aspect of physical fitness. (Ali. 2012).

### **Conclusions and Recommendations:**

#### **Conclusions:**

- The compound exercises had a positive impact on developing the explosive power of the legs for players under 16 years old.
- The compound exercises had a positive impact on developing the defensive skills in question (defending against shooting, defensive player movement, assistance and coverage) for players under 16 years old.
- The compound exercises have a positive effect in spreading the spirit of competition, excitement, perseverance, seriousness and impulsiveness among the players when performing them, which reflected positively on the results.
- Continuing the training according to pre-prepared exercises targeting specific cases that it works to develop, albeit in varying proportions.
- Targeting physical abilities without the other would lead to the development of basketball skills.

#### **Recommendations:**

- Necessity of using the compound exercises designed by the researchers in developing the explosive strength of the legs and the defensive skills in question.
- Need to use complex exercises, whether physical, skillful or motor, which help in one way or another to develop variables that in turn help to develop skills.
- Continuous work on conducting a continuous evaluation process to determine the level of performance of young players in basketball.
- Need to conduct similar research and studies on other samples.
- Need to conduct similar research and studies on other skills such as plumping, shooting, and others.
- Necessity of conducting a continuous evaluation of the training situation that the young basketball player reaches.

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**Appendix (1)**

**Compound exercises for explosive strength and skills (A)**

The first exercise: partridge for a distance of 2 meters inside the basketball court, and then make a defensive foot movement between three triangle-shaped figures.

The second exercise: partridge over a distance of 1.5 m. And make the movement of defensive feet left and right.

The third exercise: the same as the previous exercise, but using the opposite leg with the opposite direction.

The fourth exercise: jumping in place while pulling the knees to the chest while moving forward and backward.

The fifth exercise: placing the starting point at a distance of (1 m), then performing the defensive movement backwards, from a stand (1), then to a stand (2), then to (3), and so on to a stand (8), and every time the player reaches the stand, he must jump with a pull Knees to the chest and then return to the starting position. The distance between one person and another is (3m).

The sixth exercise: We put four signs in the shape of a square; the first figure is 3 meters away from the second. The player moves between the signs, if he jumps at each figure.

The seventh exercise: Placing a point in the middle and setting signs (right, left, front, behind) 3 meters after each sign from the starting point. When the whistle is heard, the player starts the defense movement forward, then returns to the starting point, then to the right, then returns to the starting point, then to the left, then back, and every time the player reaches the figure, he must jump with the knees pulled to the chest.

The eighth exercise: the same as the previous exercise, but the distance is (4m).

It is possible to repeat some exercises in the training units to benefit from the type of exercise

**Appendix (2)**

**Templates for training units**

(private preparation stage)

The experimental group, the first training unit

Training objective: Develop explosive power and defensive skills (defense against shooting, movement of the defending player, assistance and coverage)

Exercise intensity: (85%)

Month: first

Exercise application time: (35 - 40 minutes)

Week: first

Exercises	Time (sec)	Repetition	Rest between repetitions (sec)	Sets	Rest between sets (sec)	Total time of rest (sec)	Total time of Exercises (sec)
1	10	5	20	4	90	440	640
2	10-8	5	15	4	80	380	580
3	10-8	5	15	4	80	380	580
4	5	6	8	4	60	280	430

The experimental group, the fourth training unit

Exercise intensity: (90%)

Training objective: Develop explosive power and defensive skills (defense against shooting, movement of the defending player, assistance and coverage)

Month: the first

Exercise application time: (35 - 40 minutes)

Second week

Exercises	Time (sec)	Repetition	Rest between repetitions (sec)	Sets	Rest between sets (sec)	Total time of rest (sec)	Total time of Exercises (sec)
5	30	4	25	3	100	375	755
6	30	4	25	3	100	375	735
7	40	4	30	2	110	310	790