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The effect of compound exercises on muscular ability and performance level of defensive and offensive follow-up for basketball players under 18years old

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Abstract

The study aimed to prepare complex exercises (physical - skill) to be implemented during the special preparation period for the team; Knowing the effect of using compound exercises (physical - skill) on muscular ability and the level of performance of defensive and offensive follow-up for basketball players. The researcher used the experimental method and identified the research community, which are the players of Al-Hashd Al-Shaabi Basketball Club, the youth category under (18) years, and their number is (12) players. Some procedures were adopted to achieve the objectives of the study. The study came out with the following conclusions: Compound exercises had a positive impact on the development of muscular ability and the level of performance of defensive and offensive follow-up among the members of the experimental group.

Keywords: Compound, performance, basketball players

Introduction

The great interrelationship between physical and skill preparation made it necessary to pay attention to training physical abilities, especially since their level determines the level of performance of the skill side because it is one of the factors affecting it, and because the game of basketball includes many basic offensive and defensive skills, which vary in their needs to those abilities. In particular, defensive and offensive follow-up is the basis of competition in scoring points by mastering the performance of those various offensive and defensive skills and their impact on the results of the match, and it is one of the important foundations that must be emphasized. It has to be the most used during play to reach the top by building sound and strong foundations to overcome the changing, fast and escalating playing situations. The development of defensive and offensive skills comes through the development of muscular ability as one of the mainstays of complex and complex skills that require coaches to use the most appropriate and best methods, means and tools in order to develop them in order to bring young players to a high level of performance, as they are the mainstay to support our teams. Hence, the importance of the research was demonstrated through the preparation of complex exercises (physical - skill) designed by the researcher, which may contribute to the development of muscular ability and defensive and offensive follow-up of young basketball players and not to be overlooked in training units by employing those stimulating exercises to develop performance. Defensive and offensive skills being similar to playing situations.

Research problem

The issue of mastering defensive and offensive skills and applying them correctly is necessary and important because it will undoubtedly lead to positive results for the team, and through the nature of the researcher's work, she noticed a weakness in the players' performance in defensive and offensive follow-up as a result of weak muscular ability to those skills, in addition to that, most coaches do not. They allocate sufficient time for compound exercises during the training units, and thus reflect negatively on possession of the ball and thus reduce the chances of moving to the attack and scoring points, so the researcher decided to shed light on this problem by preparing complex exercises targeting the physical and skill sides due to its importance in resolving the results of matches.

Research Objective

To identify the effect of compound exercises on muscular ability and the level of performanc

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To identify the effect of compound exercises on muscular ability and the level of performance of defensive and offensive follow-up for basketball players under 18 years of age.

Imposing search

Compound exercises affect the muscular ability and performance level of defensive and offensive follow-up for basketball players under 18 years old.

Research methodology and field procedures

Research Methodology

that The study variables are what determine the optimal research method to solve the research problem, so the researcher used the experimental method in the manner of two equal groups, for its suitability and the nature of the study.

Research community

The researcher identified her research community, which are Al-Hashd Al-Shaabi basketball players who are registered in the statements of the Iraqi Central Basketball Federation for the sports season (21-2022) at ages under (18) years, and their number is (12) players and their percentage (100%) of the original community were divided Randomly, into two groups, control and experimental, with (6) players for each group.

The researcher proceeded to conduct homogeneity in the following elements (height - weight - chronological age - training age) as well as equivalence in the physical and skill variables of the members of the research sample, which would affect the results of the research and found that the two samples are homogeneous and equivalent.

Tools, devices and means used in the research:

Tests and measurements, Arabic and foreign references and sources, Basketballs, staples, tape measure, stopwatch, medical scale.

Tests and measurements used in the research

Test Power Featured speed for arms: (Mohammed, 1987)
 a test Power Featured fast For the two men: (Qasim, 2001)
 Defensive Follow-up Test: (Ali, 2012)
 Follow-up test of the rebounding ball and shooting (attack): (Raysan, 2003)

Tribal tests

The researcher conducted a test of the muscular ability of the arms and legs and defensive and offensive follow-up tests for the research sample on Wednesday 19/1/2022 at ten in the morning in the basketball hall of the Ministry of Youth and Sports complex with the help of the assistant work team.

The main experience

The researcher prepared complex exercises (physical - skill) during the special preparation period within the trainer's curriculum for a period of (8) weeks, with a total of (24) training units. The first training unit was applied on Saturday, 22/1/2022, and the last training unit was on Saturday, 19/3 /2022 at a rate of (3) training units per week for days (Saturday, Monday, Wednesday), and the partial intensity of the compound exercises was calculated before starting to apply those exercises by using the maximum repetition of each exercise x the required intensity /100.

Post-tests

The researcher conducted post-tests for the research sample for all the study's physical and skill variables on Monday, 21/3/2022. Ten o'clock in the morning, taking into account the same conditions in the tribal tests.

Statistical Means: The researcher used the ready-made statistical package (SPSS) version (23)

Presentation and discussion of the results
Show results

Table 1: Shows the arithmetic means, standard deviations, the calculated (T) value, the level of significance, and the significance of the differences in the muscular ability test of the arms and legs and the defensive and offensive follow-up (before - after) for the two groups

Statistical processors		Measruing unit	s	±	CalculatedT value	Sig	moral difference
muscle strength test							
officer	Tribal	Repetition	11	1.19	3.16	0.025	D 0.05
	after me		11.66	1.21			
experimental	Tribal		11.33	1.36	15.81	0.000	D 0.01
	after me		14.66	1.21			
muscular endurance test for men							
officer	Tribal	poison	11.90	0.35	3.17	0.028	D 0.05
	after me		12.23	0.40			
experimental	Tribal		11.88	0.84	7.04	0.001	D 0.01
	after me		13.02	0.39			
Defensive follow-up test							
officer	Tribal	a second	44	0.81	5.19	0.014	D 0.05
	after me		42.5	0.57			
experimental	Tribal		44.25	0.95	15th	0.001	D 0.01
	after me		40.5	0.57			
Offensive follow-up test							
officer	Tribal	number	5.75	0.50	5	0.013	D 0.05
	after me		7	0.81			
experimental	Tribal		5.5	0.57	12.12	0.001	D 0.01
	after me		9	0.81			

Table 2: Shows the arithmetic means, standard deviations, the calculated (T) value, the level of significance, and the significance of the differences in the test of muscular ability of the arms and legs and the defensive and offensive dimensional follow-up of the two groups

Statistical processors	measuring unit	s	±	Calculated T value	Sig	moral difference
muscle strength test						
officer	Repetition	11.66	1.21	4.29	0.002	D 0.00
experimental		14.66	1.21			
muscular endurance test for men						
officer	poison	12.23	0.40	7.01	0.000	D 0.01
experimental		13.02	0.39			
Defensive follow-up test						
officer	a second	42.5	42.5	489	0.003	D 0.01
experimental		40.5	40.5			
Offensive follow-up test						
officer	number	7	0.81	3.46	00.03	D 0.01
experimental		9	81.0			

Through the results obtained from the statistical treatments in Table (2) to measure the results of muscular ability and the defensive and offensive follow-up, it was found that there were significant differences achieved below the level (0.01) registered in favor of the experimental group members.

Discussing the results

Discussing the muscular capacity of the arms and legs

The results showed that there were significant differences between the pre and post tests of the experimental group and in favor of the post test, and the researcher attributes this to the nature of the complex exercises (physical - skill) that she prepared, which are commensurate with the requirements of basketball and the players' abilities and which include the philosophy of merging between the physical and skill sides as it gives the possibility of influence On different muscle groups performance In addition to the good coordination and connection during the training unit through the good distribution and division of exercises, since this characteristic is a composite between strength and speed, if the strength developed and the performance was done quickly, it was reflected in the development of muscular ability and this was confirmed by (Muhammad Hassan Allawi) "that the individual The athlete will not be able to master the basic motor skills of the type of activity he specializes in if he lacks the physical qualities necessary for this type of sports activity. (Mohammed, 1996) [4] The fact that the complex exercises prepared led to an increase in the degree of compatibility during performance between the contracting and the flat muscles, and this compatibility led to a reduction in the performance time and an increase in its speed, which led to an increase in the rates of muscular strength and a good correlation between the work of the nervous and muscular systems and a decrease in the duration of contraction, and this was indicated by Barrow. The link between muscle strength and kinetic speed in muscle development is one of the requirements for athletic performance for strong, fast movement events. (Mohammed, 1994) [3].

The development of the muscular ability of the players, which was consistent with the nature of the distinguished performance with strength and speed, increased the ability of the players to jump to the top, and this is consistent with what was stated by (Samuel) "With the increase in muscle strength, the players' ability to jump increases." (Samuel, 1971) [8] This means that the players are able to follow the ball and possess it with greater accuracy, as (Brian

confirms that "the player who jumps as high as possible for possession is the winner in the scoring" (Brian, 1981) [1] because it increases the duration of flight in the air and enables him to see the target clearly and make him able to direct the ball directly to the ring or indirectly to the board and scoring.

Discussing the level of performance of defensive and offensive follow-up

attributing researcher reasons the differences Which I got on her the sample to me Compound exercises prepared in Defensive and offensive methods as well on that to be sure coaches on training continuous to follow defensive And the offensive of the conviction as from Requirements the basic to win the team at the match gesticulate they give him from time Enough from Dosing training and affirmation on This is amazing skills in the form of capacitor when to her from Effect Adult Importance at Investigation Winning, and defensive follow-up is a very important skill, because if the attacker fails to shoot, the attacking team exerts heavy pressure to follow the ball inside the ring. Therefore, defensive follow-up here is very important to seize the ball to turn into a quick attack before the opposing team takes a defensive balance position, and this is what confirmed He (Mohamed Al-Shahat) said, "The team whose members have the advantage of superiority in the skill of acquiring rebounds from the failed shot is a team that possesses one of the most important basic defensive skills for basketball, which enables it to be characterized by the rapid transformation from defense to attack." (Mohammed, 1996) [4] In addition to the fact that the performance of the offensive follow-up is also important and essential, as the team that controls the ball has control of the match for the longest possible period, and this factor gives the attacking team more chances to score and increases its chances of attacking and scoring points, and this is consistent with what he indicated (Mohamed Mahmoud Dayem and Mohamed Sobhi Hassanein) "The attacking player's attempts to seize the ball, as a result of The unsuccessful shot." (Mohammed, 1984) [5].

Therefore, we find that the offensive and defensive follow-up skill in basketball is one of the skills affecting the team's victory. Accordingly, it must be emphasized that the training units include everything that It is influential and interesting and would develop and perfect the technical aspects of performing those skills, and this is what the researcher relied on during the preparation of the complex exercises for the research, which yielded positive results by

developing the level of performance of the players for those skills.

Conclusions

Through the research procedures and its statistical treatments, the researcher came out with a set of conclusions, which were as follows:

1. Compound exercises had a positive effect on the development of muscular ability in the experimental group.
2. The compound exercises had a positive effect on the development of the defensive and offensive follow-up performance of the experimental group members.
3. The compound exercises adopted by the experimental group achieved effective positive results compared to the control group.

Recommendations

1. Adopting the compound exercises due to the positive and distinct results they have achieved.
2. The necessity of adopting physical and skill tests to determine the training status of athletes.
3. Conducting similar studies on other physical and skill abilities and different categories.

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Supplement (1): Shows an example of a training unit using compound exercises

Stage: Special Numbers Unit Intensity: (85%)

Unit time: (25) minutes Rest time: (1:1) Unit goal: Develop muscle strength

Table 1: Tools used: Basketballs, whistle, figures) and defensive and offensive follow-up

Unit Sections	the exercise	exercise intensity	Repetition	Exercise time	Performance time for total exercise	Rest between repetitions	total performance time
main section	1- jogging at Place behind Midline for the stadium and at Hearing The whistle zapping quickly and jump Pulling the ball after it has bounced off the scoring board	85%	4x4	6/s	24/sec	36/sec	3/d
	2- Starting for a distance of (5 m) the player stands in front of the goal and runs forward for the specified distance towards the scoring board and try to follow the ball and insert it into the goal and so on for three repetitions	85%	4x4	5/sec	20/sec	30/sec	2.20/min
	3- jogging at Place face player facing To the wall and when you hear the whistle Rotation And go fast Towards the goal, jump and drag the bouncing ball from the board	85%	12x3	25/sec	1.15/Dr	2.30/min	6,15/min
	4- The player stands in front of the goal and a colleague shoots with an unsuccessful attempt, so the player then jumps and tries to follow the ball and insert it into the ring	85%	12x3	25/sec	1.15/Dr	2.30/min	6,15/min
	5- jogging fast from corner End stadium right For a distance of (5 m), then receiving the ball from the teammate and continuing Jogging and plucking between Signs Then Do jumping and shooting	85%	12x3	25/sec	1.15/Dr	2.30/min	6,15/min
	6- The player stands in front of the goal and runs forward for the specified distance (5 m) towards the person and performs a camouflage to shoot by jumping on the board and then moving in the opposite direction and receiving the ball from the colleague and performing the correction by jumping on the board	85%	85%	85%	85%	85%	85%