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Effect of using a proposed training device for capacity development The explosive of the arm shooting to the technical performance of the basketball

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Abstract

The aim of study is design a proposed training device to develop the special strength of the under 16 years of basketball. The researcher used the experimental approach in a similar manner (control and experiment) with pre and post testing and the nature of research objectives. The study concluded that the effectiveness of the device in developing the exploratory capacity of sample members as it simulates correct technical performance in terms of form and function.

Keywords: training device, explosive of the arm shooting, basketball

1. Introduction and importance of research:

The game of basketball is characterized by speed and strength throughout the period of ignorance, in addition to diversity and difficulty. Their skills are different. Therefore, trainers are specialized in using training aids to help these skills, especially when dealing with small age groups. These skills help to achieve the highest levels of acceptance. Using these tools and tools, The importance of research in the use of a proposed training device and its experience to learn about its role in the training process and its impact on the development of the private force and improve the performance of the The emerging class for this category is considered The nucleus of that supply in this game will accept a must build it correctly and accurately and for all

skills. The game of basketball game is characterized by strength and speed is the only game that ends at the end of the referee whistle, but the end of the result of correcting the ball so the trainers need to use devices and aids to develop the strength and speed of the game and according to the technical game and the problem of the search from the moment The researcher during the trials and his simple experience in the basketball game and the personal relationships with the trainer and the weakness of the level of muscle strength Which is a major problem, and one of the most important reasons for this weakness is attributed to the lack of use of equipment and tools to assist in training by training, which is reflected negatively on the achievement of good results. Objectives of the research: Design a proposed training device to develop the special strength of the under 16 years of basketball and identify the impact of the use of the proposed training device in the development of the special force For under 16 years of basketball. Moreover, design of the test of the explosive capacity of the arm.

2. Research Methodology:

2.1 Research Methodology: The researcher used the experimental approach in a similar manner (control and experiment)

With pre-tribal testing and the nature of research objectives.

2.2 The research community and its model: The research community represented the club of Hilla basketball for the youth category in the province of Babylon (16) Abba The researcher chose the sample of the search in simple random way, where the number of sample (12) (4 years) were selected from the research community and were subjected to basic experiments 3.3 Data collection methods, tools and tools used in research:

2.3.1 Means of data collection - refer to Arabic and foreign publications - note - personal data - tests and measurement - time and experimentation - identification

2.3.2 Instruments and tools used in research - Suggested device for explosive power - Basket balls - Camcorder

2-4 Manual search procedures

2.4.1 Determination of research tests:

The tests on the subject of the study were determined from physical tests, namely, the test of the exploding power of the arm designed by the researcher in its preparation and design, and then a questionnaire was presented and presented to a group of experts specialized in the field of basketball and tests And measurement and training.

2.4.1.1 Explosive device test of the arm Name of test / explosive capacity of the arm The purpose of the test / measurement of the explosive power of the arm The tool / video camera, A stand / arm and 90-degree arm-twisting arm and ball thrust The performance of the game / stand in front of the device and the arm flexed in front of

the chest in the position of technical performance to correct the basketball and be holding the ball with the arm of the preferred and then push the ball one and performance fast and 100% with a high scale of drawing behind the game

(68: 1) multiplied by the weight of the total mass divided by 100, as well as the addition of resistance to the ball from the weight of the weight and resistance to the possibility The weight of the resistance was determined by the experiment

The expert opinion is 40% of the maximum power RM1 Recording method / The program calculates the explosive power of the lever and the watt gauge.

2.4.2 Device Specification:

2.4.2.1 Machine Components: The machine consists of three main parts:

The base is a set of hollow iron pipes (7.5 cm) and thickness (2 mm) connected to each other by welding to form a horizontal rectangular base (125 cm long and 80 cm wide) with four rubber supports (4 cm) in addition to four frames with a thick stitch used to move the machine and move it easily when needed. The base base is connected to another vertical base (100 cm) high, used to carry the same height as in the shape of (1)

Second: The device of measuring the strength of the barrel arm, which is a hollow metal cylinder length 180 cm in diameter and 25 mm in diameter, based on a point 20 cm back from its center, mounted on a moving part allowing it to move downwards, (20 °) with only one side. Special design The ball is designed by one end only (upper limb) and is allowed to rotate around the vertical shaft only. The other side is equipped with a powerful hydraulic gun 250 Newton resist the movement of the ball to the A and power. The movement of the lever is obstructed in the direction of throwing the ball, so that the amount of force on the arm can be controlled by a mechanical system installed at the rear of the device. The hydraulic drive angle is changed with the lever from 14 to 35 degrees.

P is the force of lifting the lever (the force of the lever) and (F) represents the force of the hydraulic drive The power calculations are as follows:

100 cm 80 cm

Φ

0 20F

P80

$P * \cos(20) * 100 = F * \sin(\Phi) *$

$P = 0.85 * F * \sin(\Phi)$ ..... (1) If $\Phi = 14$ degree

And F = 250 N

Figure (3) How to control the force

Of the application of the levy law (force * arm = resistance * arm)

(P) is calculated from the equation according to equation (1), equal to 51.2 N, or 5.12 Kg. If the angle of the hydraulic drive is changed to (35) P, the force (P) will be equal to 12.2 Kg

Figure (4): System of change of power

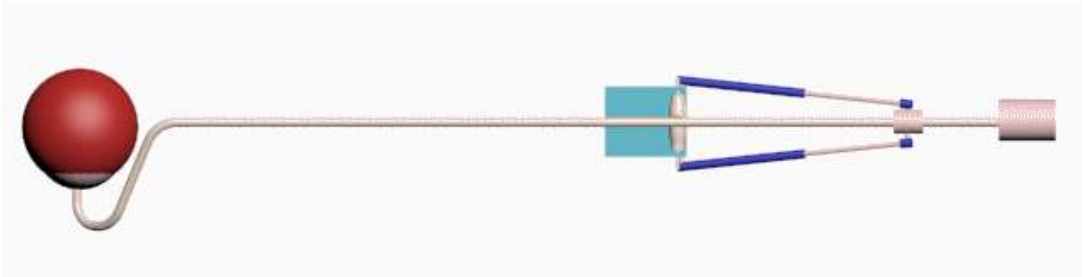
Third: a change mechanism of the increase which is a mechanical system (gears) linked to the part

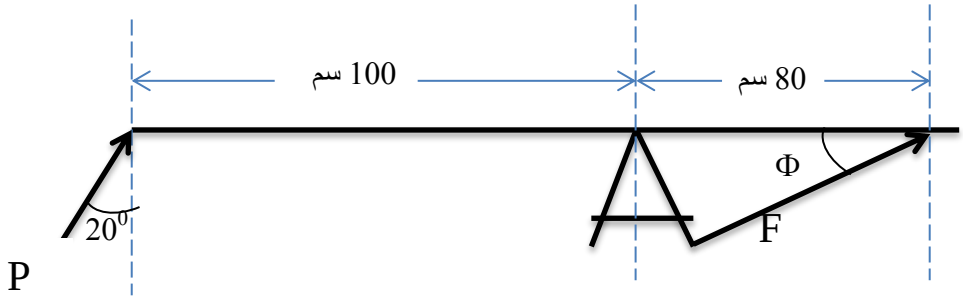
Below is the structure of the ball bearing function. Change the height of the balls from 135 cm to 180 cm to be suitable for all age groups that want to play and train on the machine

A change of height device

2.4.2.2 Machine Function:

Or: Special Force Device: The player stands in front of the device and holds the ball with the preferred arm. According to the correct technical technique (the correct technique), the fingers are spread on the ball and the index finger is in the center of the ball. The imaginary line works with the arm, trunk and leg, And the front with an imaginary line with the center of the target ring (the ratio of the steering of the ball with the spike is higher than the rest of the fingers of the hand to guide the ball), and the forearm at the right angle with each palm on the one hand with the humer on the other hand and the arm is located with the trunk, The ability to detonate the ball that is overloaded with the other side of the ball And then return it in a controlled manner, so that it can be fast or normal from the socket located at the top of the device as in the pictures below.





2-4-3 Secondary Experimentation: The researcher conducted a statistical experiment in the National Hall for Sports Welfare in Babel at 3:00 pm on Thursday 18/10/2017. This was explained to the team and with the presence of the trainer Arafa Technical errors in the operation of the machine by the application of exercise using the device by the statistical sample and the maximum strength of the maximum strength was (10 kg) and during the performance (6 kg) resistance was determined to determine the ability of the performance The performance was slow and this would serve to develop explosive capacity. The performance should be fast to develop, so the intensity of the resistance (5 kg) With this weight, the lab was able to perform quickly, representing 50% of the maximum power of 1RM. The researcher saw from the conventional experiment that it is proportional to the special strength of the sample. And make sure that the device is designed correctly and accurately, and know the time allocated for exercises, and know the rest periods with repetitions and groups, and make sure that the exercises match with the work of the device.

2.4.4 Main Experiment Procedures

2.4.4.1 Tribal measurements of the research sample In order to achieve the research objectives, the tribal measurements of the sample of the research were conducted. The experimental and control groups were included in the research variable at 3 pm on Saturday 27 On 10/10/2018 at the National Hall for Sports Welfare in Hilla where a test of explosive capacity was performed.

2.4.4.1.1 Procedures for homogeneity and equivalence of the sample

2.4.4.1.2 Harmonization and equivalence of the groups Before the start of the implementation of the training modules, the research changes are considered. In order to adjust the changes that affect the results of the research, Of the homogeneity and equivalence of the two research groups in changes related to the research study as shown in Table (1) and (2)

Table (1) shows the homogeneity of the research sample and Table (2) for the equivalence of the research sample. Hence, we find that the two groups are homogenous and equal in the tribal measurements of the research.

2.4.5 The main experiment (the exercise of force exercises using a proposed apparatus) Was conducted by the researcher on November 5, 2018 in the main section of the training modules by the experimental groups, where he performed the exercises using the device to develop the special force (the explosive power). Where the researcher used repetitive training and included training in the training module

One exercise on the machine has increased the intensity of resistance to all four training modules (and the installation of duplicates 16 training units) where the researcher has changed the size of the training eight other training modules of the control of the degree of pregnancy where appropriate to the target and the subject of training " The change in the size of the load is used up or down from the change in periods of time, either in the change in the number of repetitions in the game or in the frequency of the training unit (29: 2). (8) weeks, where the total number of training units reached (24) training units carried out in (days), Thursday, The training time varies from 15-20 minutes from the main section of the module.

There were intervals of interstitial rest with repetitions and in whole. The researcher used the negative rest to match the nature of the components of the training load carried out, for example the performance of the free throws and the rest periods (1D-3D) were shown in the training modules (see Annex 1) The control has led to traditional exercises to develop special force

Performance and accuracy of correction,

2-4-6 dimension measurements of the research sample

Post-tests were conducted on the members of the two groups after the completion of the main experiment at 3:00 pm on Saturday, 29/12/2018. The researcher was keen to observe the same conditions and procedures when performing the tribal tests. Achieving the objectives of the research and reaching the results The researcher used the statistical bag spss 4 - View, analyze and discuss the results:

3.1 Present the results of the test of the explosive power of the arm of the experimental and control groups

Table (1) calculates standard mathematical calculations (t) in relation to tests

Statistical means Variables	measruing unit	The explosive power of the arm				T value	Sig
		Tribal		Post			
		S	P	S	P		
Control	Wat	209.26	48.82	266.08	42.46	5.40	moral
Experimental		211.08	39.04	375.70	63.34	7.81	moral
he value (t) of the tabular = (2.57) at the degree of freedom (5) and the level of significance ,05)							

Table (1) shows the homogeneity of the research sample and Table (2) for the equivalence of the research sample. Hence, we find that the two groups are homogenous and equal in the tribal measurements of the research

4.2 The main experiment (the exercise of force exercises using a proposed apparatus) Was conducted by the researcher on November 5, 2018 in the main section of the training modules by the experimental groups, where he performed the exercises using the device to develop the special force (the explosive power)

Where the researcher used repetitive training and included training in the training module. One exercise on the machine has increased the intensity of resistance to all four training modules (and the installation of duplicates 16 training units) where the researcher has changed the size of the training eight other training modules of the control of the degree of pregnancy where appropriate to the target and the subject of training " The change in the size of the load is used up or down from the change in periods of time, either in the change in the number of repetitions in the game or in the frequency of the training unit (29: 2). (8) weeks, where the total number of training units reached (24) training units carried out in (days), Thursday, The training time varies from 15-20 minutes from the main section of the module.

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Post-tests were conducted on the members of the two groups after the completion of the main experiment at 3:00 pm on Saturday, 29/12/2018. The researcher was keen to observe the same conditions and procedures when performing the tribal tests. Achieving the objectives of the research and reaching the results The researcher used the statistical bag spss 4 - View, analyze and discuss the results:

4.4 Present the results of the test of the explosive power of the arm of the experimental and control groups

Table (2) calculates standard mathematical calculations (t) in relation to tests

Statistical means The test	measruing unit	Control		Post		T value	Sig
		S	P	S	P		
The explosive power of the arm	Wat	266.08	42.46	375.70	63.34	3.37	moral
ne value of t = tabular = (2.22) at the degree of freedom (10) and the level of gnificance (0,05)							

3.4.1 Discussion of the results of physical tests The researcher attributes the reason for the development of this ability by the experimental research sample to the effectiveness of a device

Special Force Suggested and accredited exercises in training modules where the work of the device is primarily based on resistance exercises similar to the type of performance, making the arm muscles able to respond quickly to the high elbows in order to direct the exercise

In the same way. That the explosive capacity occupies the highest rank in most physical order

(69: 3). The results of the research support the findings of previous research in the development of the explosive capability of the arm (Radcliffe 1995: 87) and the success of Salman (2000) (5). The results of these studies showed that there is a positive effect on the development of the explosive power of the arms

Using specific exercises with resistance. Therefore, the researcher considers the importance of this ability to play basketball as it should take a large percentage

Of time was devoted to the development of muscle strength and output as quickly as possible for training units. In addition to the foregoing, it is also clear that there is a

development in the physical abilities of the control group. The researcher attributed the reason for this development to the effect of regular approaches to the trainer, in addition to the continuity and regularity of the units training.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

1. The effectiveness of the device in developing the exploratory capacity of sample members as it simulates correct technical performance in terms of form and function.

2 - The training load used by the researcher in the development of explosive capacity was appropriate

3 - The use of equipment and aids help to develop physical capabilities because they broadcast the spirit of enthusiasm and perseverance in the case, especially if similar to the disease

4.2 Recommendations

1- The use of the training apparatus which is characterized by different mechanics in the implementation of the programs and training programs. 2- The importance of developing the explosive capability through the use of devices or tools to help develop them without. Annex

Refrenses

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