

The Effect Of A Proposed Training Program For Weightlifting Exercises To Develop The Explosive Power To Perform Handball Shooting Skills For Young Players

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Abstract: Explosive strength is of great importance in most sports activities and events, mostly because it is one of the basic characteristics of the physical preparation components that characterize sports, as it is the main pillar in the skill of jumping in some sports that require sport to make a great effort to reach the highest point of jumping, and the comprehensive and integrated preparation of the game. According to the scientific method based on choosing the correct training methods and means, it is the basis for the success of the training and handball process, as any game has its basic principles that depend on mastering the best method in training methods, and the principle of developing the quality of strength Explosive through training and according to modern scientific foundations is an important matter, especially in games that need to develop the strength component accompanying the accuracy of performance, in addition to that it needs to perform various movements of stability and surprise and movement and requires the player to move from one situation to another with harmony, fluidity and movement accuracy Super because it is closely related to each other and the fact that handball skills require players to possess the characteristic of explosive power because it is one of the characteristics that help them in performing the various skills of the game, including the skill of shooting with jumping, which is one of the most important offensive handball skills because of its It is an important influence on the outcome of the match as it has evolved and has become one of the most powerful means of attack. Therefore, the coaches must pay attention to this skill by focusing on developing the quality of the explosive force according to training curricula based on sound foundations and work to direct the players 'attention to accuracy in the performance of the correction. As for the research method, the researcher used the experimental approach with equal groups, and the research sample consisted of players from the specialized school for talent sponsors - Diyala handball for youth for the sports season 2018/2019 and the number (24) players were divided into three experimental groups consisting of each group of (8) Players.

Keywords: Training program, with weights, explosive power, aiming, handball.

1. INTRODUCTION:

Strength training is one of the training methods that can be used in a wide field to develop muscle reflexes, which inevitably lead to the production of various sports movements that can be used in the field, especially in the field of sports training that has to do with the development of special strength for various sports, where the weight of the body itself is

formed. Resistance overcome by internal muscles, especially when performing jumping movements, which contain many secondary rotational movements that occur in different parts of the body (arms, legs, and torso), whether these jumps are on the ground with the weight of the body, on barriers of different heights, on floors, or on boxes. (Allawi and Radwan: 1991: 34), and that explosive power is of great importance in most sporting activities and events, mostly because it is one of the basic characteristics of the physical preparation components that distinguish sports as it is the main pillar in the skill of jumping in some sports that require sport to make great effort to reach The highest point of jumping, and the comprehensive and integrated preparation of the game according to the scientific method based on the selection of the correct training methods and means is The basis for the success of the training process and handball, like any of the games, has its basic principles that depend for its mastery on the followers of the best method in training methods, and the principle of developing the characteristic of explosive force through training and according to modern scientific foundations is important, especially in games that need to develop an element of strength Accompanying the accuracy of the performance, in addition to that it needs to perform various movements of stability and surprise and from the movement and requires the player to move from one position to another with harmony, fluidity and high kinematic accuracy because it is closely related to each other and the fact that handball skills require players to possess the characteristic of explosive strength because it is from The qualities that help them in performing the different skills of the game, including the skill of shooting by jumping, which is one of the most important offensive handball skills because of its important impact on the outcome of the match as it developed and became one of the most powerful means of attack, so coaches must pay attention to this skill by focusing on developing the characteristic of strength Explosive, according to training methods based on correct foundations and work to direct the players' attention to accuracy in the performance of correction.

Research methodology and field procedures:

2. RESEARCH METHODOLOGY:

The researcher used the experimental method with equal groups due to its suitability to the nature of the research.

Research community and sample:

The research sample consisted of (24) players from the Specialized School for Talent Development - Diyala for the 2018/2019 sports season, to represent the research sample by (100%) of the research community. They were divided into three experimental groups and by (8) players for each group.

Devices, tools and means of collecting information:

Methods for gathering information:

Arabic and foreign sources and references, a form for recording test results, an anthropometric registration form, tests and measurements.

Devices and tools used in the research:

Dell laptop calculator, Nikone D5000 camera, length measuring tape, 5 cm width adhesive tape and office tools, legal handball court, 10 legal handballs, weights (iron bar, weights in different categories) 2), a stopwatch, a medical scale to measure weight, a whistle.

Field research procedures:

Tests used in research:

The researcher used the following tests:

Jump test:

The purpose of the test: the accuracy of the shot from the high jump.

Tools: (12) handball, a high jump device with a height of (150 cm) and the distance between the posts is (2 m), a curtain made of fabric or strong wire completely covering the goal with (4) holes of each of them (60 cm x 60 cm) representing the four corners For the goal for accurate correction.

Method of performance: The player stands behind the starting line (according to the aiming hand) and directly in front of the vault device, holding the ball.

The player starts taking 2-3 steps, then leads a shot with a high jump to square (1) then to (2) then to (3) and finally to (4).

The performance is repeated 3 times, meaning 12 balls, three of them, into one of the four squares.

Rules: Take no more than three steps.

Scoring: A point is calculated from entering the ball into the box designated for the shot - zero is counted for the shot outside the square. - The result of a shot that a player moves with more than three steps is not counted (Al-Khayyat and Al-Hayali: 2001: 508).

- Vertical Jump Test (Hassanein: 1997: 56) Vertical Jump Test

The aim of the test.

Measuring the explosive force of the two leg muscles.

- Tools and supplies.

A smooth wall with a height of not less than (3.60) m from the ground, a wood panel dyed black and on it white lines are drawn between each line (2 cm), magnesium powder, a cloth to wipe the powder marks after reading each laboratory attempt, a line is drawn perpendicular to the The wall is 30 cm long.

- Description of performance.

- The tester dips the fingers of his distinctive hand with the powder, then stands facing the board, extends the arms as high as possible, and marks the powder on the board, touching the heels to the ground.

After that, the laboratory turns to stand next to the board so that the feet are on the 30 cm line.

- The laboratory swings the arms down and back with the torso bending forward and down and the knees bent to a right angle position only.

- The laboratory extends the knees and raises the feet together to jump up with the arms swinging strongly forward and bring them to the highest possible height so that the powder mark is at the highest point it reaches.

- The laboratory is given three attempts and the best attempt is calculated for him with a slight rest period between one attempt and another.

Jumping up from standing and not by taking a step or rising.

It is preferable for the judge to stand on a table near the laboratory so that he can read the results.

- Laboratory management.

- A recorder that calls the names and records the results.

- A judge who calculates the scores and notes the performance.

- score calculation.

- The laboratory score is the number of centimeters between the line that it reaches from the standing position with the arms up and the mark that marks it as a result of the jump up, rounded to the nearest centimeter.

Pre-test:

The researcher conducted the pre-tests for the individuals, the research sample, in a hall of the Directorate of Youth and Sports - Diyala - Baquba, on Sunday 11/8/2019. All variables

were installed in terms of place, time and method in order to unify and create the same or similar conditions for them when conducting the tests Dimensional.

3. EXPERIMENTAL METHOD:

The researcher, with the assistance of the team coach, as well as those with experience in the field of handball training, to benefit from their opinions and directions in developing training curricula. The researcher prepared training curricula that were implemented on 11/8/2019 and until 3/9/2019 on the sample members, as the curriculum lasted for (8) weeks with three training units per week, i.e. a total of (24) training units for each experimental group during the days (Sunday, Wednesday and Thursday), and the curriculum was divided into three main sections: -

Preparatory section (10) minutes.

The main section is (70) minutes and is divided into two parts: -

A - Skillful performance for scoring skill (20) minutes.

B - development of the characteristic of the explosive force (50) minutes.

• Final section (10).

The researcher prepared (8) training modules models for each group. Each model contains the intensity of training for each group and contains the exercises used in weights and the total training volume for one exercise and the interval of rest.

The training curriculum includes the following procedures: -

Intensity of training used: In order to achieve the research goal, the researcher used three types of intensity in developing the characteristic of explosive power, as the first group trained severely (40-60%), the second severely (55-65%) and the third group severely (50-75%) and The researcher based when choosing the three types of intensity on the opinions of three scientists who differed in determining the appropriate intensity to develop the characteristic of the explosive force.

Size: When developing the training curriculum, the researcher worked to make the training size of one training unit unequal among all the research sample groups.

Rest: The duration of the interstitial rest between the seat is different between the three experimental groups as a result of the difference in intensity between them because, as is known, the higher the intensity, the greater the interval rest period (Husam al-Din: 1997: 60). In order for the player to regain his activity, this is what was indicated by both (Schmid: 1992: 394) and Bertenham (Brihenbum: 1994: 406), "The rest period must be sufficient to restore strength and start the next exercise."

Post- test:

The researcher conducted the post tests on the research sample on Sunday 6/10/2019. And that was in the closed hall of the Directorate of Youth and Sports - Diyala - Baquba. The researcher intended to unify all the circumstances in which the pre-tests were conducted in terms of time, place and the method used in the implementation of the test so that all the players were under the same conditions and participation. That is, fixing all the variables except for one variable, which is the independent variable.

Results, analyzed and discussed:

Table (1) shows the values of the arithmetic mean and the standard deviations of the dimensional - dimensional test to test the explosive strength of the two men and the skill of shooting with the hand ball for the three experimental groups and the error rate

Tests	Group 1	Group 2	Group 3	Significance
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	A	STD	A	STD	A	STD	
The explosive power of the legs	59.412	2.481	60.642	2.342	61.278	2.214	Sign
Jumping Aiming Skill	9.93	0.99	10.13	1.26	10.45	1.24	Sign

The results showed that there is a significant difference in the results of the three groups, which indicates that the methods used in training players have influenced the development of explosive strength of the two men. The researcher explains this development in the leg muscles to exercises using weights as it led to the stimulation of the necessary muscle fibers, which led to the development of the strength characteristic. Explosion: This is because when the muscle is exposed to an impactor, it is either affected in its entirety or part of it may be affected and this depends on the intensity characteristic of this stimulus. Moreover, the weight training exercises were effective and directed. (Been: 1994: 22) states: "The strength improves as a result of regular training, especially if it contains This training is on weights suitable for the capabilities of the players with gradual progression in these loads according to the improvement of their abilities, in addition to the reason for this development to the training curriculum, where "the opinions of experts, regardless of the sources of their scientific and practical cultures, confirm that the training program leads to the development of achievement" (Mohsen: 1996: 98), Provided that this curriculum is prepared on a solid and organized scientific basis, as we find that the pliometric exercises used in this approach have greatly helped in developing the explosive power of the leg muscles, "as There is a correlation when increasing the strength of the two leg muscles with the results of the explosive force expressed by the vertical jump ("Dick192: 1997: 1997).

We also find that these exercises have worked to improve the speed of movement during the performance of the grooming and jumping movement, which led to the improvement of the test result, in addition to the fact that these exercises have contributed to the development of strength for the muscles of the legs by organizing the muscular work between contraction and extension of the working muscles, which helps In performing the movement easily and in an orderly manner, in addition to that the researcher attributes the reason for the development of the three research groups to the fact that the information given collectively leads to savings in effort and time. Because it is carried out in a manner that calls for stopping the performance of all learners in order to correct the mistakes of a colleague, and this is what was emphasized in that "the period of correcting errors is a boring period because it leads to the cessation of activity for all students and not only for the wrong student" (Al-Diri: 1987: 99), It was also shown in the tables above that the three experimental research groups developed in a different and different way in the tests of technical performance and accuracy of correction skill from jumping high, but it is noticed that the group that has the most influence in Learning this skill is the third group, as the results showed the presence of significant differences in favor of this group, and the researcher attributes the reason for these differences to the use of the appropriate time for feedback that this group worked with, as through it, the learner has knowledge of his wrong performance and then corrects the error if it occurs. This is the self-evaluation of the learner through being an "appropriate" time that allows the learner to recognize weaknesses in performance and correct his mistakes, if any, and thus generate a complete perception of his performance in an attempt to improve and develop it, which made this group outperform the remaining research groups.

4. CONCLUSIONS AND RECOMMENDATIONS

Through the results that emerged, the researcher concluded that the use of the training curricula was strictly (45-60%) (55-65%) (60-80%) each of which had led to the development of explosive power using weights, and that the approach used heavily (60- 80%) is the best method used in research to develop the characteristic of explosive power, as well as the use of the three training methods with different stresses in developing explosive power that led to the development of the accuracy of the skill of shooting by jumping with handball, and the researcher recommends emphasizing the use of intensity (60-80%) in developing The explosive strength of the leg muscles, and the interest in using weight training exercises for the muscles of the legs, trunk and legs to develop explosive power, conduct similar research using the same different stresses in other games.

5. REFERENCES:

- [1] Al-Khayyat, Dia and Nofal Muhammad Al-Hayali; Handball: (Dar Al-Kutub for Printing and Publishing, University of Mosul, 2001).
- [2] Saad Mohsen Ismail. The Effect of Training Methods for the Development of the Explosive Power of the Legs and Arms on the Accuracy of Long Distance Shooting by Jumping High in Handball, PhD Thesis, University of Baghdad, College of Physical Education, 1996.
- [3] Talha Hussam El-Din (and others): The Scientific Encyclopedia of Training, 1st Edition, Cairo, The Book Center for Publishing, 1997. Ali Al-Dairi and Ahmad Battania: Physical Education Teaching Methods, Jordan, Irbid, Al-Amal Press, 1987.
- [4] Muhammad Hassan Allawi and Muhammad Nasreddin Radwan (1982) quoted by Ibrahim Magdy, The Relationship between the Control Center and the Level of Skill Performance of Football Players, Published Research, Helwan University, Journal of Sports and Arts, 1991.
- [5] Muhammad Subhi Hassanein, Hamdi Abdel Moneim: The Scientific Foundations of Volleyball and Measurement Methods for Orthodontics, 1st Edition, Cairo, Book Center for Publishing, 1997.
- [6] Britteen Homgrey & Sofe. Plauom ethries. Perfrmance and triaimeg for Vollyball, 1994
- [7] Dick. W. Frank. Sport Training principles. 3rd Ed. London. A-C Black, 1997
- [8] Peen dx, C: the effect of depth jumpand weight traing on errtical jump research uarterly, Sports Miedicine, 1994
- [9] Schmid Tbliechen, Pietmarll, treaning, for power erent's strength. power in sport's, oxford, pypawokom. Biachell Bwblishing, 1992