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The use of ballistic training method in the development of specialforce anditseffect on the speed of the kineticresponse tothedefensive movements of young player's handball

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Abstract

The ballistic training method is a modern training method that works on the development of rapid muscle strength, depending on the build-up of strength in the muscle and its release very high in a short period of time i.e. shortening the time period between central constriction and decentralization, and this method is a combination of ballistic and polymerite training alone through the use of exercises that include speed performance with light resistance or medium or the use of body weight and focus on reducing sleep time between Central and decentralized contractions such as the descent from the jump box and then upgrading to another jumpbox and so on, with the emphasis that the number of repetitions used allows the athlete to perform the exercise effectively without falling in the level of speed of performance with sufficient comfort to allow healing, and this method has affected the development of the distinctive force of the speed and explosive of handball players sample research, and contributed to the special strengthof handball players to improve the speed of the motorintake of defensive movements.

1.Introduction

The great development witnessed by the game of handball came as a result of research in modern training methods aimed at achieving the training goals of the game and the economy of efforts made and identified in order to serve to improve the level of technical and physical performance of theplayers.

The training of muscle strength in all its forms and types is the focus of the attention of most workers in the field of sports training as it is the dominant characteristic on all physical qualities in meeting the requirements of motor and technical performance in most sports activities, and in the game of handball, muscle strength in general and strengthin particular is a basic requirement of the duty of the player To meet the duties and requirements of performance and offensive during the matches, the methods, systems and methods of training the force varied in a way that allows the workers in the field of training to reach the type of force to be developed to the best levels by organizing training loads and forms and courses of exercise in accordance with the form and type of force to be developed.

The method oftraining ballistic ballistic paliumtri one of the training methods that aims to develop muscle strength is a sub-method of ballistic training, which aims to develop muscle strength in different proportions as it has a great impact on the strength characteristic of speed and less on explosive force, as this training method is adopted in the performance of ballistic-style ballistic-style exercises, which Thecycle of performance of each exercise isguaranteed on the central movement of muscle contraction after a decentralized contraction movement under the pressure

ofaccumulated kinetic energy and destined against decentralized muscular contraction, withthe period of sleep between the end of the decentralized movement and the central movement of muscle contraction is shorter than(Helmy, 213,2015).

This method depends on shortening the period of stillness during the shift between the decentralized and central contractions in the polymeric exercise, taking into account that the nature of performance in the polymeric exercise is characterized by the situation taken by the body during the period of stillness to a degree considereddifficult, so this training method depends mainly on shortening the period of sleep for the shortest possible so as not to cause the characteristic difficulty of the situation in reducing the strength and speed with which the performance of the central movement after the sleep period is performed.

The importance of the research lies in the use of ballistic exercises in accordance with the ballistic training system targeting special force and its reflection on the speed of the kinetic response tothe movement of defensemovements by forming the loads of these exercises according to the correct scientific bases.

The elements of specialstrength are a priority requirement to be possessed by handball players, especially the muscular ability of their close association in the ideal defensive performance during the game, as they appear clear in the defensive moves by attacking the player carrying the ball or trying to cut it during the pass as well as quick moves to fill the gaps and preventthe attacker fromshooting, and all this Reflected on the results of the game in a way that can affect negatively or positively depending on the level of muscle ability of the players, and through the follow-up of the games of youth teams handball shows a disparity in the level of defensive performance and speed towards deception attempts and offensive moves of the striker in the players, this calls to stop at this problem and try to find the best solution for it.

The research aims to identify the effect of ballistic-ballistic exercises in the development ofspecial strength and speed and to know itsimpact on the defensive movements of young players with handball.

Field search procedures

2.1 Research methodology

The researcher usedthat the experimental method in the method of the single group with pre- and post- testing for its suitability and research objectives.

2.2 Sample search:

The research sample included the players of Diyala Sports Club handball for the sports season 2019/2020 selected in the intentional manner, numbered (18) and was excluded (6) players for use in the exploratory experiment and thus the number of research sample (12).

Table (1)

Sample homogeneity in search variables

T	Variables		Unit Measurement	Arithmetic medium	Broker	Deviation Normative	Factor Convolution
1	The explosive force of the two men	Arms	Cm	7.36	7.30	.983	.329
		Two	Cm	47.00	48.50	5.410	.252
2	The speed-up power of the arms		Degree	13.167	13.00	1.899	.384
3	The power of speed For both men.	Right	Cm	40.25	40.00	3.745	.002
		Left	Cm	40.75	41.00	1.913	.228
4	Defensive moves		Degree	21.08	12.00	1.505	0.408

2-3 Means of collecting information, devices and tools used in the search

- Arab and foreign sources
- Physical and skill tests
- Legal handballs
- Handball Court
- Plyomturk boxes at altitudes of 20cm-60cm
- Medical balls with weights of 2kg-5kg
- Medical balance

2-4 research tests

Muscle ability tests are determined by the most commonly used tests in the Iraqi environment.

First: Vertical jumping (Sargent) to measure the explosive strength of the muscles of the legs (Mohamed Hassan and Nasreddine 84, 2002).

Second: Test throwing a medical ball weighing 3kg with hands from sitting on the chair (Ahmed Khamis and Jamil Kassem, 256, 2011)

Third: Partridge test on one leg 30 m to measure the strength characteristic of the speed of the muscles of the legs (Haval, 104, 2004).

Fourth: 10-second front al-Sitotest test to measure the strength ofthe muscles of the arms (Ahmed Khamis and Jamil Kassem, 258, 2011)

5th: Test of short-term defensive moves _front- rear - side (Ahmed Khamis and Jamil Qasim 254, 2011)

2-5Field search procedures

2.5.1 Pre- Tests

Pre- tests were conducted on theever-ed research sample on Saturday, 14/12/2019 and on the Hall of the Directorate of Youth and Sports / Diyala and all the conditions of conducting the tests were installed to be provided in the post- tests.

2.6.2 Ballistic-ballistic ballistic-style

training curriculum

The preliminary experiment was initiated on the members of the research sample on theday of thesecond of the 2012Q1 7/12/2019 on the hall of the Directorate of Sports and Youth /Diyala, wherethe vocabulary of the training curriculum was prepared by the researcherthat according to the scientific bases of training varied in the manner of training flexible resistances and was applied to the members of the research sample by the team coach and limited the work of the researcher to supervise the progress of the training units only, and the general features of the training curriculum were as follows:

- The curriculum included 24 training modules, and in the special preparation period.
- The application time of the research method vocabulary (25-30) minutes from the physical part of the training unit, as the total time of the exercise method reached the method of exercise in the method of ballistic paliumtri (648).
- The researcher used the method of high and low intensity phiter training in the application of exercise curriculum exercises.
- The ripple of the load during the method was (2-1) and(3-1)
- The number of iterations is appropriate for the player's ability to perform repeats without any decrease in the speed of performance according to the required intensity.
- Exercise-to-exercise comfort ranges from (30-60) seconds at a rate of (1-2) and rest between totals (60) seconds.
- Internal load ripple (1-1) and external load ripple (3-1), the overall strength of the training unit is calculated in a way that calculates the total intensity of total exercise in the daily training unit.

2.6.3 Post- tests

The post- tests were carried out on Thursday, 23February2020, on the personnel oftheresearch sample after confirming that the same conditions for the implementation of pre- tests were installed as much as possible.

2.7 Statistical means

The search results were extracted using the statistical program(spss)using the following methods:

Arithmetic mean, standard deviation,Ttestfor associated samples.

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3. View, analyze and discuss the results

3.1 Presentation, analysis and discussion of the results of the pre- and post- tests of the research variables:

Table(2)

The values of the arithmetic circles, the standard deviations, the difference of the circles and their deviations, and the value of the calculated between the pre- and remote measurements of the research variables

T	Variables		Pre-Test		Post-Test		Q.F.	P.P.	Calculated	Level of significance
			A	STD	A	STD				
1	The explosive force of the two men	Arms	7.358	.983	7.79	.908	.437	.115	13.17	0.00
		Two	47.00	5.41	50.42	4.795	3.417	.996	11.88	0.00
2	The speed-up power of the arms		13.167	1.898	16.33	1.669	3.167	.834	13.14	0.00
3	The power of speed For both men.	Right	40.25	3.745	38.167	3.689	2.58	3.99	2.24	0.00
		Left	40.25	3.745	38.167	3.689	7.417	2.47	10.42	0.00
4	Defensive moves		21.08	1.505	15.25	1.21	3.166	1.029	10.65	0.00

View, analyze and discuss the results of the pre- and dimension tests of the research variables:

Table (3) shows the existence of moral differences between the pre- and post- indicators of the research variables, and this shows the effectiveness of the ballistic ballistic training method in the special strength of handball players, which is represented by the explosive force and characterized by speed and the reflection of its impact on the defensive movements of handball players sample research.

The evolution in explosive force and the strength of the speed is the result of the use of ballistic-style ballistic exercises, which are to mobilize the force as much as possible during the decentralized constriction, which is followed by maximum central constriction and reduced the time between the two contractions to the maximum possible, which generates explosive force to the maximum. As much as possible, this corresponds to the concept of rapid force, which depends on the output of maximum muscle strength in the shortest possible time as well as exercises were similar to theactual performance of the specialist, which resulted in the development of special muscle strength as a result of similarity in the correct technique and the direction of muscle action and the motor range of the joints working in the exercise.

Training using ballistic-polymeric exercises allows to benefit from the reflex reaction of the muscle against its elasticity in the development of muscle strength, as one of the characteristics of the

muscle it automatically tries to resist its ride and suddenly this characteristic is known as muscleelasticity, when the muscle is quickly crossed after the body falls on the ground or receive one of the limbs of the body of a fallen weight, the muscle The worker is involuntarily bound to resist the tension as the muscle contracts will to absorb the kinetic energy of the fall of the body or the weight used in the exercise, and this works to be the level of constriction very expensive and in a very short time, which makes the intensity of the contraction more than any intensity of muscle contraction will(Helmi, 216,2015).

The moral results also showed the differences in the test of defensive moves and this shows that the development of the special force has reflected positively on the defensive movements of the research sample personnel, as these moves are characterized by speed and reaction towards the movement of the attackers as "training balcitydoes not have a decrease or decrease in speed soit maintains the special compatibility of mostgames"(AliMohammed, 26, 2003) and this requires the player defender to possess these qualities in order to be able to take The correct position to hinder the attack process either by moving to both sides and forward quickly and effectively and not allowing the striker to make a breakthrough and aim at the goal, as well as the quick start to cut the ball before receiving it by the striker, as the explosive force appears clear at the moment of departure to cut the ball or the moment of movement either to the sides or forward and show the strength characteristic of speed in repeating rapid movements during the defense process which requires speed and strength at the same time to reduce the danger of the striker or the offensive plan of the opposing team.

4- Conclusion

The ballistic training method has a positive effect on the special strength of handball players by matching the specificity of this method with the requirements of the actual performance of handball, which targets the fast muscle strength by improving the central and decentralized contractions of working muscles as well as reducing the period of sleep between them, which helps to generate great strength and the shortest possible time and thus will help to improve the performance of the skills in general and defensive movements in particular, as the better the physical aspects reflected positively on the performance of the players.

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