International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 02, 2020
ISSN: 1475-7192

The effect of exercises in the style of flexible resistance in developing the explosive and speed-distinguishing strength of the arms and legs and the strength and accuracy of shooting for handball players

Hussam Mohammed Headan[1] , Sardar Hkem Mohamed[2]

[1]University of Diyala / physical education and sport sciences

[2]Diyala Education Directorate

E-mail: Drhussam@sport.uodiyala.edu.iq[1], sardarhakeem65@gmail.com[2]

ABSTRACT :*Handball is one of the games that witnessed a noticeable development in many vital joints, and this is represented in increasing the speed and strength of the game in both offensive and defensive moves, and all of this needs an increase in the physical giving of the player during the match, and in order to be able to meet these difficult requirements It must be possessed by physical elements that qualify it to meet these requirements strongly and quickly at the same time, and the method of training with flexible resistances is one of the submethods of parallel training, which depends on the variation within the same training repetition, i.e. variation in the intensity of training in one exercise, which gives effective and focused results On the training goals that must be achieved as a result of training, through the use of elastic ropes and elastic sandal bands, it is one of the training means that gives a variable amount of intensity when used as well as the ease of dealing with them in exercise unlike other traditional resistances, and thus this helps to perform strength exercises with a path My movement is similar to performance and therefore the muscles working in actual performance will get effective training, which works to develop them positively, and this is what I proved The results that have been reached, the muscular ability represented by the explosive force and the strength marked by speed has achieved a noticeable development and this has a positive impact on the correction power and its accuracy among the members of the research sample.*

KEYWORDS: *flexible resistances, muscular ability of the arms and legs, accuracy aiming.*

I. INTRODUCTION:

Muscle strength training in its various forms and types is the focus of attention of most workers in the field of sports training, being the dominant characteristic of all physical attributes in fulfilling the requirements of motor and technical performance in most sporting activities, and in the handball game, muscle strength in general and rapid strength in particular is a basic requirement and a must The player to fulfill the duties and requirements of defensive and offensive performance during matches alike, the methods, systems and methods of strength training varied in a way that allows workers in the field of training to reach the type of strength to be

developed to the best levels through the organization of training loads and the forms and paths of exercise in proportion to the shape, type and type of strength to be developed .

One of the methods of Contrast Training is one of the methods of Contrast Training, which is a system that depends on changing the resistances or weights used to perform exercises inside a single repetition, within a group, or inside a training unit, and Baker defines training. An asymmetric is a type of resistance training or without it that alternates between the use of heavy-weight exercises and light-weight exercises in order to improve muscle strength "(Baker, 493, 2003), and this system relies on heterogeneity in the use of training stresses and instability during training Which works away from the monotony of performance in one exercise and thus ensuring that a plateau does not occur in the player, and in this training system can use exercises without tools and rely on body weight or use exercises using training tools such as weightlifting or rubber cords or medical balls and others.

As for the flexible resistance training method, it is the system through which exercises are used against variable resistances such as rubber ropes or sandal straps. This method is characterized by a change in intensity during the performance of a single exercise, that is, the longer the rubber cord is stretched, the greater its resistance and thus the player extracts his strength more whenever Approached to the centralization of movement in the exercise, and this is the essence of the difference between it and the use of traditional weights, which extract the same force from the beginning of the movement path to its end, and the importance of research lies in the use of exercises with elastic resistances (rubber ropes - sandal bands) targeting the muscles working in aiming by jumping high with a ball The hand is analogous to the kinematic paths of this type of aiming (Helmy, 319, 2015).

Special fitness elements are among the priority requirements to be possessed by handball players, especially the muscular ability to be closely related to the ideal performance during the game, as they appear evident in the skill of aiming through the approaching run or upward or upward forward and the ball is aimed at the goal, and all This is reflected in the results of the match 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 matches of youth teams by hand, it was found that there is a difference in the level of muscle capacity (explosive strength and characterized by speed) among the players, knowing that the players are regular in training and this What calls for stopping at this situation, and the research problem lies in answering the following question: Does training with flexible resistances develop muscle ability? And affects the correction and its accuracy?

The research aims to identify the effect of exercises in the style of flexible resistances in the development of the rapid strength of the muscles of the arms and legs and their effect of the aiming force by jumping high and its accuracy among young players with handball.

II. FIELD RESEARCH PROCEDURES:

Research Methodology:

The researcher used the experimental method in the one group method with pre- and post-testing for its suitability and research objectives.

The research sample:

The research sample included the players of the Diyala Sports Club by hand, who were chosen intentionally, and they numbered (16), and (6) players were excluded for the assistance of them in the exploratory experiment, thus the number of the research sample reached (10).

Tools:

• Physical and skill tests

• Legal hand balls

• Handball field

• Rubber cords and sandalwood tapes

• Medical scale.

Research tests:

The muscle strength tests, which are the explosive force and the Distinctive force speed of the arms and legs, were determined using the most frequently used tests.

Pre-test:

Pre- tests were conducted on the members of the research sample on Saturday, 4/1/2020 and in the hall of the Directorate of Youth and Sports / Diyala, and all the conditions for conducting the tests were established in order to be provided in the post tests.

Training curriculum in the style of flexible resistors:

The main experiment was conducted on the members of the research sample on Sunday 5/1/2020 at the hall of the Sports and Youth Directorate / Diyala, as the vocabulary of the training curriculum was prepared by the researcher according to the scientific foundations of the differentiated training in the method of training flexible resistors and was applied to the members of the research sample from The team coach accepted and the researcher's work was limited to supervising the conduct of the training units only, and the general features of the training curriculum were as follows:

The curriculum included 24 training units, and during the special preparation period.

• The application time of the vocabulary of the research method is (25-30) minutes from the physical part of the training unit, as the total time of the resistive curriculum reached (648) minutes divided equally by the explosive force and characterized by the speed of the legs and arms by (162) minutes for each of them.

• The researcher used the method of training the high and low intensity in the application of flexible resistance curriculum exercises.

Ripple of pregnancy during the period of application of the curriculum was (2-1) and (3-1)

- Adopting rubber cord resistance as a basis for identifying training stressors in the training curriculum.
- The rubber cords and sandal tapes used in the research are fixed, so increasing the intensity is done by increasing the performance time for one repetition.
- The number of iterations is appropriate to the player's ability to allow him to perform the repetitions without any decrease in the speed of performance according to the required severity.
- Intermission between exercises ranges between (30-60) seconds at a rate of (1-2), and rest between groups (60) seconds.
- Internal load ripple (1-1) and external load ripple (3-1), the total intensity of the training unit is calculated by way of calculating the total strength of the total exercises in the daily training unit.

Post-test:

Post- tests were carried out on Tuesday 10/3/2020 on the members of the research sample after confirming the confirmation of the same conditions for carrying out the pre-test.

III. RESULTS OF MUSCLE TESTS AND THEIR DISCUSSION:

Table (1) Arithmetic, standard deviations, mean differences and deviations, and the calculated value of T for pre -and post- tests of search variables

Variables		Pre-test		Post-test		A differences	Std differences	T		Significance
		A	Std	A	Std			Calculated	error percentage	
Explosive force	arms	8.16	0.56	9.08	0.71	0.92	0.27	11.59	0.00	Sign
	legs	34.32	2.76	37.79	0.79	3.47	1.53	7.85	0.00	Sign
Distinctive force speed	arms	6.92	0.9	8.58	0.99	1.66	0.49	11.72	0.00	Sign
	Right leg	8.42	0.66	7.78	0.61	0.62	0.23	9.01	0.00	Sign
	Left leg	8.99	0.64	8.34	0.52	0.65	0.26	8.48	0.00	Sign

Table (1) shows the statistical parameters of the research variables for the experimental group, which show the existence of significant differences between the pre and post -tests. This proves the validity of the first research hypothesis.

The researcher attributes these differences to the effectiveness of exercises in the style of flexible resistances, which helped to develop the muscular capacity, which is the explosive force and the strength marked by the speed of the muscles of the arms and legs, as the change in the variable intensity used in the exercise, which works with a gradual increase, reaching the highest intensity and begins to decrease until returning to the initial position of the exercise This method will distribute the effort exerted during the exercise and take advantage of it to shed the real intensity on the part to be developed, and here the intensity is focused on the central contraction and its focus on the working muscles in this contraction and begin to reduce the intensity whenever the contraction becomes the decentralized direction, that is, in the case of the relaxation of the working muscles, This is what led to the rapid performance of the exercise and the lack of a slowdown in returning to the initial position, which helped the emergence of a good explosive force among the members of the research sample. (The amount of work performed under this condition is localized with a flexible energy released into the muscle during the stretching " (Crossley, 19:26) 84).

The use of rubber cords and sandal straps had an effective impact in developing the muscular capacity of the muscles of the legs and arms for the members of the research sample, as these training methods give a variable intensity during their use in exercise, as these training methods are distinguished by the fact that they generate resistance that increases its degree as its elongation increases during the central movement For exercise, and this requires increasing the intensity of muscle contraction against this resistance continuously throughout the kinetic range of the exercise until the completion of the movement and thus the nervous excitement of the working muscles is achieved more effectively at all points of the kinetic path of the central movement of the exercise, because "the more the individual becomes more able to bring out the strength, the more The closer the central movement to its end, the higher the level of resistance the working muscles also face, the closer the central movement will reach its end "(Ahmed Helmy, 231, 2015).

IV. CONCLUSIONS AND RECOMMENDATIONS:

After the results of the research, we conclude that the training method with flexible resistances has contributed to the development of the muscular capacity represented by the explosive force and the distinctive force of speed, and this has been reflected positively through the clear impact on the correction power and its accuracy among the members of the research sample. The researcher recommends the use of this training method because of its impact Significant in the special muscle strength of handball players, by using straps and rubber ropes.

V. REFERENCES:

[1]. Mr. Abdel-Maksoud Theories of athletic training, strength training and physiology: (Cairo, The Book Publishing Center, 1997).

[2]. Dhia Al-Khayat and Nawfal Muhammad Al-Hayali; Handball: (University of Mosul, Dar Al-Kutub for Printing and Publishing, 2001)

[3]. Issam Ahmed Helmy; Training in sports activities: (Cairo, Modern Book Center, 2015).

[4]. Laith Ibrahim Jasim; The effect of weightlifting super sit exercises to develop special strength and shooting power through the different effort of young handball players: (PhD thesis, College of Physical Education / University of Baghdad, 2008).

[5]. Muhammad Hassan Allawi and Muhammad Nasruddin Radwan; Measurement in Physical Education and Sports Psychology: (Cairo, Dar Al-Fikr Al-Arabi, 2002)

[6]. Haval Khurshid Rafiq Al-Zahawi; The effect of physical and physical exercises on the basis of introductory training on a number of physical, skills, and functional variables for young soccer players: (PhD thesis, University of Mosul, College of Physical Education, 2044).

[7]. www.ivsl: Baker, D., Acute effect of alternating heavy and light resistances on power output during upper-body complex power training. Journal of Strength and Conditioning Research 17 (3) (2003).

[8]. Cohen J.A; Power primer: (Psycho bulletin, 1992).

[9]. Crossly, G; Special Strength: A Link with Hurdling, Modern Athlete & coach, vol, 22 1984 p26.