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The effect of the contrastive training using weights and plyometrics on the development of muscular ability and Extension for Handball Players

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Abstract:

We have tried through this research to work on raising the level of handball in our country, for the successful and good process of training and upgrading the training process by guiding the trainers in the right gallery and the scientific competence in modern training with the use of modern means to raise the level of players. From all aspects and focus on work With the smaller groups, who are the basis for ensuring the promising future of handball.

Thus, we conducted this field research on the Juniors category for the Western Regional Handball Championship and applied a training method by proposing training contents for both weight and biometric training, in order to develop muscle strength and improve the players.

To verify the hypotheses of the research, the researcher adopted his study on the experimental method. The experiment was applied to a sample of the players from the western regional handball teams of the Junior category where they were divided into experimental sample and control sample. The study concluded that "training with resistors biometrics" has a positive effect on the development of muscular ability and upgrading of handball players.

Key words: contrastive training; muscular ability; Extension; hand ball players

Introduction

Sport has become one of the modern features that reflect the progress of countries and the size of their advancement and interest in building modern human. Global, Olympic continental and international meetings even local ones are forums where the beauty of physical performance and human miracles are reflected in the formulation of sports movements in their best form.

The investment of sports training on the basis of being a science and a tool for the advancement of society and thus access to high levels by considering the knowledge of the fundamentals and rules are based on it, and derives from the material has become an effective tool to achieve the level of sports, thanks to the principles and objectives and methods of different. In the field of science, where he has expanded the use of various sciences to build his operations and plans. Ahmed Abd-al-Rahman and Izzedine Bakri (2004) suggest that sports training is the overall process of targeted improvement of athletic performance achieved through a planned program of preparation and competition.

Since training is based on different training methods, each method achieves specific goals. Muhammad Hassan Allawi (1992) refers to training methods as the various means by which the training situation of the individual athlete can be developed to the maximum extent possible (308: 11).

Handball is one of the long-lived group games and it was not long before it took its place among other games because of its speed and enthusiasm (109: 10). As with other activities, the handball game has become a technological tool using its science to find effective and modern ways and means to achieve its highest form by achieving the highest scores in the physical and skillful performance and good preparation of the game's. Physical characteristics particularly the power of speed which is a prerequisite for sport To the high level because of the rapid and sudden change in movement and to do the correction and jump ... To improve the level of this game should focus on the preparation of good training programs that take into account the requirements of effectiveness, using that

Weight training plays an important role in the development of muscle strength of a handball player. Since the nature of the skillful performance in this sport requires the strength of speed. Therefore, weight training is necessary in the contents of training programs (68:11).

Many researchers also consider that telemetry training is the most widely used method of developing the speed-specific power of many sports activities that require maximal acceleration with maximum muscle strength. This method helps to overcome problems that correspond to the development of speed-specific power (4:20).

Kheiria Soukari and Mohammed Bureka (2001) contend that the innovative coach is designed from the exercises that have a good impact on developing the abilities of his players. Using a variety of exercises to reach high levels ().

Mr. Abd al-Maksoud (1997) states that in the different training, in this training method the most effective is achieved through the use of force in different or opposite directions within the training unit, a group of exercises, a change in the level of pregnancy or a change in the type of contractions and muscle tension or weight to a **plyometric**.

We have seen through the coexistence the apparent weakness of the fitness of the players, especially in the movements of upgrading and weakness of the power of correction. The apparent lack of strength characteristic of the speed of the players that Bardpour stresses when he believes that is of utmost importance to the handball player and its impact On the skillful performance of the players (59:07).

The problem of the study that was going on training in the National Handball Championship teams is the lack of diversification and mixing of modern methods of training, especially when developing special physical qualities. Although the programs contain weight training in some teams and the appearance of telemetry training in some others we did not notice the process of coordination between the use of these different methods. Through the scientific observation of the researcher it was found that researchers and trainers used weight training and telemetry completely separately. This basis This study was an attempt to use weight training and **plyometric** in a different way to determine their effect on the development of muscular strength and improvement in handball players.

Method:

Research Methodology: The researcher used the experimental method using two groups, one experimental and one control.

Sample of the research:

The research sample included 20 players from the original research community (120 players) by more than 10% were chosen in a deliberate manner ranging from the age of 13 to 15 years, ie two teams of the regional champions of Western handball Championship distributed as follows:

Pilot Group: Consists of 10 players to which the proposed program has been applied.

Control Group: Consists of 10 players.

Physical tests:

1. Three wheels with the right foot.
2. Three wheels with the left foot.
3. Read the front for 10 seconds.
4. Push the medical ball 3 kg.
5. Test vertical jump of stability.

Basic experience:

The basic experience was applied for ten weeks with three training units per week. The training time was 80 minutes, taking into account the training load with emphasis on the use of exercises at the beginning of the basic phase of each training module.

The control group was the same time, means and place. But in the basic phase of each training unit. General exercises were applied when developing muscle capacity.

Statistical study / Tests	Degree of freedom	Level of significance	Tabular value T	S1	S2	The difference	Calculated value T	Statistical significance
Three wheels with the right foot.	18	0.05	2.10	3.52	3.50	0.02	1.04	Not Statistically significant
Three wheels with the left foot.				3.48	3.47	0.01	0.13	Not Statistically significant
Read the front for 10 seconds.				8.25	8.20	0.05	0.15	Not Statistically significant
Push the medical ball 3 kg.				3.14	3.12	0.02	0.11	Not Statistically significant
Test vertical jump of stability.				26.15	26.1	0.05	0.49	Not Statistically significant

Table (02): shows the degree of homogeneity between the two groups in the variables in question.

We note that there are no statistically significant differences between the two groups (experimental and control), ie, the calculated T value for all the tests was smaller than the T value of the table, which confirms the equivalence before the study.

The first phase consisted of 30 weeks. The duration of the proposed exercise was 15 minutes and the load ranged from 40% to 60%. The number of repetitions per exercise from 06 to 10 was 30 to 40 groups with rest from 45 to 60 seconds.

The second phase consisted of 30 weeks and the duration of the proposed exercise was about 17 minutes and the load ranged from 50% to 70%. The number of repetitions per exercise from 08 to 12 was 40 to 50 groups with rest from 60 to 90 seconds.

The third phase consisted of 40 weeks and the duration of the proposed exercise was about 20 minutes and the load ranged from 55% to 75%. The number of repetitions for the exercise was from 08 to 14 B 04 to 06 groups with a rest of 60 to 120 seconds

Results

Table (04): shows the differences between the averages of the tests in question
The T value of the table is 2.26 at the significance level of 0.05.

Sample	Statistics / Tests	Post measurement		Pre measurement		Calculated value T	Percentage of progress
		Arithmetic average	standard deviation	Arithmetic average	standard deviation		
Control group	Three wheels with the right foot.	3.49	0.37	4.11	0.34	3.74	17.71
	Three wheels with the left foot.	3.19	0.39	3.58	0.36	4.75	12.22
	Read the front for 10 seconds.	8.25	0.21	10.06	0.16	5.24	21.39
	Push the medical ball 3 kg.	2.98	0.63	3.34	0.40	4.51	12.08
	Test vertical jump of stability.	28	0.52	30.12	0.31	3.16	7.75
Experi-mental group	Three wheels with the right foot.	3.52	0.60	4.92	0.23	16.51	39.77
	Three wheels with the left foot.	3.15	3.62	4.55	3.22	19.74	44.44
	Read the front for 10 seconds.	8	0.23	12.31	0.14	5.93	53.87
	Push the medical ball 3 kg.	3.14	0.37	4.02	0.35	6.32	28.02
	Test vertical jump of stability.	28.06	0.34	36.6	1.22	12.32	28.51

Table (04) shows statistically significant differences between the experimental and control groups in the telemetry of the variables in question for the experimental group.

Table (05): shows the value of T calculated in the tests in question in the telemetry
At the 0.05 level and the Degree of freedom 18.

Tests	Degree of freedom	Level of significance	Tabular value T	Calculated value T	Statistical significance
Three wheels with the right foot.	18	0.05	2.10	4.30	Statistically significant
Three wheels with the left foot.				2.24	Statistically significant
Read the front for 10 seconds.				2.84	Statistically significant
Push the medical ball 3 kg.				2.17	Statistically significant
Test vertical jump of stability.				3.27	Statistically significant

Table (05) shows that the calculated T value for all tests is greater than the T value of the T-table, which confirms that there are significant differences in the post-tests.

Table (06): Percentage of progress in tests for the control sample

Tests	Arithmetic average		Percentage of progress
	Post	Pre	
Three wheels with the right foot.	3.49	4.11	17.71
Three wheels with the left foot.	3.19	3.58	12.22
Read the front for 10 seconds.	8.25	10.06	21.93
Push the medical ball 3 kg.	2.98	3.34	12.08
Test vertical jump of stability.	28	30.12	7.75

Table (07): Percentage of progress in tests for the experimental sample.

Tests	Arithmetic average		Percentage of progress
	Post	Pre	
Three wheels with the right foot.	3.52	4.92	39.77
Three wheels with the left foot.	3.15	4.55	44.44
Read the front for 10 seconds.	8	12.31	53.87
Push the medical ball 3 kg.	3.14	4.02	28.02
Test vertical jump of stability.	28.06	36.06	28.51

In the previous two tables, we found that the percentage of progress of the tests in question was high for the experimental sample compared to the control sample. It ranged from 11,80 to 23.91 in the experimental sample. The control sample was the results between 0.34 and 6 , 37).

Discussion:

Differential training has a positive effect on the development of muscular strength in handball players. We note from Table 04 that there are statistically significant differences between the pre and post test of the experimental sample which exceeded the control sample for all tests. This sample applied parts of the proposed program using Differentiated training method.

Through the results obtained, we find that they agree with Ibtisam Ammar Jabara (1998) and Adams (1984) that the differential training used improves the muscular capacity of the two men.

Mr. Abdel-Maksoud (1997) indicates that differential training increases motor speed and The higher the ability of the muscles to contract at a faster rate and more explosive during the movement of the joint and the speed of movementn, the high intensity used in these exercises improve the compatibility within the muscle and between muscle groups, that leads to the improvement of the level of power without an increase in Muscle mass.

The results showed that there is a significant difference in favor of the experimental group, which is used by the researcher to use the differential training through the abdominal muscles, which act as the main engine during the exercise in the form of motor skills in the case of sudden lengthening such as tug before performing The motor task.

The experimental sample has achieved the best results compared to the control sample. This is explained by the effect of differential training that leads to an increase in the degree of progressive contraction, to an acceptable level by shortening the stage of interpolation and treating the slow transition from The phase of the progressive contraction to the stage of contractile contraction.

In the vertical jump test the most recent results exceed the experimental group. This is in line with Atef Rashad's (1995) study of the impact in differential training through the testing of appropriate exercises (frequency, density and intensity).

The researcher attributed these results to the impact of the proposed differential training. which improves the ability to jump by bridging the gap between strength and speed training, using the so-called Prolonged Reaction, that facilitates additional muscle units during muscle performance and gains muscle elasticity.

In the medical ball test the differences were statistically significant between the differential training group and the control group in favor of the differential training. This consistent with the Little study, where it confirms that the effect of differential training (weighting and then telemetry) is more effective than each training.
The researcher also sees that the upgrade is necessary in the handball game and this is clearly shown in the results obtained in the correction test. That reflects the correlation between the development and achievement (scoring).

CONCLUSIONS:

In the light of the research sample, tools, devices used and through the results obtained, the following conclusions were reached:

- The proposed training program has a positive effect on the variables in question.
- There are statistically significant differences between the pre and post test of the experimental group in favor of the post-measurement.
- There are statistically significant differences between the experimental group and the remote measurement control in favor of the experimental group.

_ Differentiated training method of effective methods in the development of muscle capacity and upgrading of handball players.

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