The Swedish Journal of Scientific Research (sjsr)
ISSN: 2001-9211. Volume 1. Issue 3. August 2014

THE IMPACT OF THE COMPOUND TRAINING FOR THE DEVELOPMENT OF CERTAIN TYPES OF MUSCULAR STRENGTH AT THE LEVEL OF ACCOMPLISHMENT RUN 200 METERS FOR DISABLED (DEAF AND DUMB)

* Dr. Kamel Abboud Hussein , ** Dr. Alaa khalaf Haider , *** M. Walid Jalil Ibrahim.

*, **, *** Diyala University - Faculty of Physical Education.

Abstract

The diversity of training ways and its methods is one of the important reasons that prompted scientists to study it and work to push them towards the renewal and development which commensurate with the potential and human capacity and that these methods and techniques put set of objectives like suitability for each game or activity where they have uneven effect that putted by specialists within their plans for the development of all the physical characters and appeared so obvious as a result of the development of the physical level that need development many recipes which consistent with the privacy of the game, where represents the essential physical abilities such as muscle strength , speed-strength where the various methods of training make to raise the level of those capabilities through the dynamics of working with training components.

Hence the importance of research appear in the workout the style of compound training that ensue in which weights training and the biometric exercises "which must be the intensity is high for both weight training and the biometric This means that the volume should be low enough

The objectives of the research are putting exercises in compound style to develop explosive strength and speed-strength development and achievement run (200 meters) for the disabled category (deaf and dumb). As well as identify the impact of the compound trainings in the development of explosive strength and speed-strength accomplish run (200 meters) for the disabled category (deaf and dumb).

The researchers put their hypotheses, which stipulates the presence of statistically significant differences in the pre and posttests in the development of explosive strength and speed-strength for the two groups of control and experimental research. Also the presence of statistically significant differences in the post tests in the development of the explosive strength of speed-strength and in favor of the experimental group.

It was one of the most important results is that the use of the compound training (exercises of the biometric weighting in the development of performance run 200 meters contributed to the development of muscle strength of all kinds and thus achieve the goals of the research hypotheses. As well as the training curriculum that was used had a positive effect and has a effective in the development of muscle strength which is reflected in the performance skills of the stages of jogging.

KEYWORDS: DISABLED. DEAF. COMPOUND. TRAINING, MUSCULAR.

1. INTRODUCTION AND IMPORTANCE OF THE RESEARCH

The sports for the disabled and what present under its banner of many sport games is one of the sports that has seen developed and based on scientific research and objective study which aimed to integrate the individual to society and to increase interaction and interest in all aspects of physical, psychological and mental health which is "the best way and the best to speed the return of the disabled to society and corrupted again with him and his success as an individual producer members of this community integrated and interacting with it, the diversity of training ways and its methods is of one of the important reasons that prompted scientists to study and work to push it towards the renewal and development commensurate with the potential and human capacity and that these methods and techniques put set of objectives like suitability for each game or activity where they have uneven effect putted by specialists within their plans towards the development of all the physical attributes and appeared so obvious as a result of the evolution of the physical level that need to the evolution of many recipes and consistent with the privacy of the game, which represents the essential physical abilities such as muscle strength speed-strength where the different training methods make to raise the level of those capabilities through dynamic work with training components.

Hence the importance of research appear in the workout the style of compound training that ensue in which weights training and the biometric exercises "which must be the intensity is high for both weight training and the biometric This means that the volume should be low enough

2. RESEARCH PROBLEM

Through research and investigation in the sources and the Internet, the researchers found that there is a method proved successful in other areas, namely the compound training, which depends on the performance of overload exercises followed directly by the biometric exercises to develop explosive strength and speed-strength effectiveness in the long jump for the disabled. And the development level of achievement through the development of all kinds of force which is necessary for this event and its technical components and hoping that we will have to solve the problem of the research and upgrading of physical players.

3. RESEARCH GOALS

1. Putting exercises in compound style to develop explosive strength and speed-strength and the development of achievement run (200 meters) for the disabled category (deaf and dumb).
2. Understand the effect of compound exercises to develop explosive strength and speed-strength accomplish run (200 meters) for the disabled category (deaf and dumb).

4. RESEARCH HYPOTHESES

1. There are significant differences in the pre and posttests in the development of explosive strength and speed-strength for the two groups of control and experimental research.
2. The presence of statistically significant differences in the post tests in the development of the explosive strength of speed-strength and in favor of the experimental group.

5. RESEARCH METHODOLOGY

The researchers used the experimental method as being more appropriate approaches to solve the problem research

6. RESEARCH SAMPLE

Is to select a sample search by intentional way from the paroalambah players in Diyala province , category (deaf and dumb) in the effectiveness of the long jump and the number (8) , the homogeneity made by coefficient sprains variables (weight, age ,the training age) and the sample divided into two groups .

Table (1) demonstrates the homogeneity of the sample in some of the variables

Indicators	The unit of measurement	Arithmetic mean	Standard deviation	Mediator	Coefficient of sprains
Weight	Kg	65.25	1.35	65.54	1.01
Training age	year	5.75	0.75	5.50	0.755
Height	cm	168.45	1.707	168.75	0853

7. FIELD PROCEDURES OF THE RESEARCH

After doing the tribal testing on research sample, the researchers apply the curriculum prepared by them, which is an compound exercises with the use of weighting tools (pectoral weighting, and guitar for the arms as well as legs also contain weighting) also using the biometric exercises for the research sample for 60 day rate (3) training units per week, and after completion the application of curriculum , a posteriori tests of a sample research has been done to find out the extent of development in muscle strength and accomplishment for deaf and dumb runners .

Exercises used in the specimen module (Appendix 1) the researchers took into account the following:

A- Preparing physical exercises to develop muscle strength (explosive power and speed-strength)

B - Giving exercises in the main section in the curriculum prepared by the researchers

C- The intensity of exercises between 65% 75%

The researchers relied on the pulse as an indicator of interfaces comfort between duplicates and between groups, as the number of heart beats between duplicates (130-140 beat per min), which is equivalent in time (3-4) minutes. While the intensity of the biometric exercises between 80% - 90% and repeat (2) for each exercise, which has been applied in a manner of periodicity training with high intensity

D – The rest between groups was between (110-120 beat per minute), which is equivalent in time of (4-5) minutes

E – Exercises should be given successively of the arms and legs, taking into account the conditions and characteristics of the compound training with changing rates and volumes and the rest which convenience in line with the research sample, and their level of training.

8. DISPLAYING RESULDS, ANALYZING AND DISCUSSING THEM

Research data were handled statistically using the search program (spss) to extract the ratio of development between tribal and posteriori tests

Table (2) Shows the arithmetic mean, standard deviation and the value of calculated and tabular (T) in the tribal and posteriori tests for the experimental group for the development of certain types of muscle strength at the level of accomplishment run (200 meters) for the disabled (deaf and dumb)

Tests	Unit of measurement	The tribal measurement		The posteriori measurement		The value of calculated T	The value of tabulated T	The level of significance
		S	D	S	D			
Test of broad jump	distance	2.58	1.35	2.96	0.40	7.49	3.18	significant
Test of throwing a medical ball weighting (4 kg) from the chest to the	distance	4.59	0.42	5.31	0.39	3.75	3.18	significant

farthest distance								
Test of flexion and extension of the knees in 20 seconds	duplication	15.50	0.57	19.75	0.95	8.87	3.18	significant
Test	Time	25.31	0.29	24.57	0.42	4.11	3.18	Not significant

With degree of freedom (3) and the probability of error (0.05)

Shown in Table (2) that the arithmetic means in the pretest variables , Effect of compound training for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb)

broad jump test, throwing a medical ball from the chest to the farthest distance, bending and extending the knees in 20 seconds, the test of completion run 200 meters) of (2.58) (4.59) (15.50) (25.31), respectively, and the deviations of standard of (1.35) (0.42) (0.57) (0.29) respectively

While the arithmetic means in the post-test in the variables under the same compound training effect for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb) (broad jump test, throwing a medical ball from the chest to the farthest distance, bending and extending the knees in 20 seconds, completing the test run 200 meters) of (2.96) (5.31) (19.75) (24.57), respectively, and standard deviations of (0.40) (0.39) (0.95) (0.42) respectively

The total values of calculated (t) (7.49) (3.75) (8.87) (4.11), while the value of tabular (t) (3.18) at the level of significance (0.05) and in front of the degree of freedom (3), and since the calculated value is greater than the tabular this indicates that the moral differences between pre and post- tests in all the variables under consideration the impact of the compound training for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb) and in the favor of the post test

The researchers attribute that these significant differences are due to the training curriculum has included vocabulary helped to use loads and different intensities for the development of muscular strength with tighten (65-75% of the weighting exercises)(80-90% of the biometric exercises) than the maximum that an individual can accomplish Which led to the achievement of the increase in the load enough to stimulate physiological processes as well as duplicates of these exercises and the duration of the rest periods between repetitions and between groups has helped the development of speed-strength for the development of own muscle strength and that the most important for muscles that depend on what the training cause for the type of used activity during the performance which will lead to achieve the feat in addition to the use of exercises that have a relationship to the development of this physical trait as that for this exercise, which included exercises for strengthening , for members of the experimental group considers that the use of high duplicates of special exercises have had a significant role in strengthening the abdominal muscles involved in performance and these exercises are within the principle of specificity of training that contributed to the performance of the test , as the results of the study confirms where carried out by the researcher (Abdul Razzaq Kazim) who emphasized "to use the method to develop own muscle strength through the use of exercises by the style of compound training and its impact was positive in the development of some special skills in addition the researchers believe that the speed-strength of the abdominal muscles are developed through exercises of power that have a role in the development of some of the skills that play where the abdominal muscles play an important role. " Abdul Razzaq Kazim al-Zubaidi 1999.91))

The researchers attribute the cause of development among members of the research sample to develop speed-strength to the muscles of the two leg is that the exercises used in the curriculum by using the biometric exercises In addition to the components of training load which used where researchers used some of the instruments and tools for the development of this trait as stated (Talha Hussein Hossam El Din) "The growth of muscle strength by using the exercises special for devices and tools outpaced the growth of some species" (Talha Hussein Hossamel dein, 1994.197)

Table (3),Shows the arithmetic mean, standard deviation and the value of calculated and tabular (T) in and pre and post tests and the control group for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb)

Tests	Unit of measurement	Pretest measurement		Posttest measurement		Value of calculated T	Value of tabulated T	The level of significance
		S	D	S	D			
Test of broad jump	Distance	2.58	0.13	2.65	0.13	2.13	3.18	Not significant
Test of throwing a medical ball (4kg) from the distance chest to a farthest	Distance	4.59	0.04	4.78	0.08	3.30	3.18	significant
Test of bending and extension of the knees in 20 seconds	duplication	15.50	0.57	16.75	0.50	5.00	3.18	significant
Achievement test ran 200 meters	time	25.31	0.29	25.04	0.14	1.16	3.18	Not significant

with the degree of freedom (3) and the probability of error (0.05)

Seen from the table (3) that in arithmetic means in the pretest variables , Effect of compound training for the development of certain types of muscle strength at the level of accomplishment run 200 meters for the disabled (deaf and dumb)

Test of broad jump, throwing a medical ball from the chest to the farthest distance, bending and extending the knees in 20 seconds, the completion test (run 200 meters) of (2.58) (4.59) (15.50) (25.31), respectively, and the standard deviations of (0.13) (0.04) (0.57) (0.29) respectively

While the arithmetic means in the post-test in the variables under the research , the effect of compound training for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb) (broad jump test , throwing a medical ball from the chest to the farthest distance, bending and extending the knees in 20 seconds, completing the test run 200 meters) of (2.65) (4.78) (16.75) (25.04) respectively, and standard deviations of (0.13) (0.08) (0.50) (0.14) respectively

The total values of calculated (t) (2.35) (3.30) (5.00) (1.16), while the value of tabular (t) (3.18) at the level of significance (0.05) and the degree of freedom (3), and since the calculated value is greater than the tabular this indicates that the moral differences between pre and post tests and in the variables under consideration except test (broad jump test, and the completion of 200 meters) the impact of the compound training for the development of certain types of muscle strength at the level of accomplishment run the 200 meters for the disabled (deaf and dumb) and to the favor of post-test

Respecting to the lack of development of the achievement (lack of any significant differences in achievement test and researchers attribute the cause of that achievement cannot be developed through short periods of time because the work and continued exercise , higher technique of stages of rapid jogging needs skilled performance to achieve the feat, and also not to jump from stability . Researchers attribute that ; the use of intensity according to the vocabulary of the curriculum for each athlete and to suit Oasis capacity identified between repetition and aggregates using training methods that make this medium is far from previous training methods . this type of training

is one of the exercises that can be used for each of the levels and ages, and by the possibility of and the ability of the individual sports, especially in games where the muscle strength is the leader of it

Through Table (3) observe the development of the control group in bending test and ball throwing test is due to the training using any method of training lead to the development of skilled level and its development and this is consistent with the views of many scientists and specialists in the field of sports training like (Mohammad Yousuf el Sheikh , Yassin al Sadiq, 1969.188) and (Mohammad Hassan Allawi, 1986.170) (Nader Abdul Salam Awamry, 1983.301) as they said "The training lead to improvement of the physical performance." As well as due to the attendance at the training and selection of the appropriate specialized exercises

Table (4) illustrates the arithmetic means and standard deviations and the value (v) of the a posteriori tests for the development of certain types of muscle strength at the level of accomplishment run 200 meters for the disabled (deaf and dumb) for the two experimental and control groups

sequence	Tests	Unit of measurement	The experimental group - dimensionally		The control group - dimensionally		The value of calculated T	The value of tabulated T	Significance
			S	D	S	D			
1	Test of broad jump	distance	2.96	0.04	2.65	0.13	4.27	2.45	significant
2	Test of throwing medical ball (4kg) from the chest to the farthest distance	distance	5.31	0.39	4.78	0.80	2.62	2.45	significant
3	Test of bending and extending the knees in 20 seconds	duplicating	19.75	0.95	16.75	0.50	5.55	2.45	significant
4	Achievement test ran 200 meters	time	24.57	0.42	25.04	0.14	2.05	2.45	significant

(*) Tabulated at 6 degrees of freedom and the level of significance (0.05)

By the results shown in Table (4) in the jump broad tests from stability for posteriori tests of the two sets of research has reached the arithmetic mean (2.96) and standard deviation (0.04) for the experimental group while the arithmetic mean of the control group was (2.65) and standard deviation (0.13) and For the purpose of testing the hypothesis which is concerning with the terms of the differences between the two posttests for the two sets of research ,the results has been processed statistically using the test of correlated samples, as the calculated value (4.27), which is bigger than tabulated value when the degree of freedom (6) the level of significance (0.05) equals (2.45) , since the calculated value bigger than tabular value so a significant difference between the two sets of research

With regard of throwing a medical ball of the posteriori tests, the arithmetic mean of the experimental group reached (5.31) and standard deviation (0.39) and the arithmetic mean of the control group was (4.78) and standard deviation (0.80), as the calculated value (2.62), bigger than the tabulated value equal to (2.45) Since the calculated value larger than tabular value so the difference is significant between the two sets of the research

In bending and extending test of the knees in 20 seconds in the post tests the arithmetic mean of the experimental group reached (19.75) and standard deviation (0.95) and the arithmetic mean of the control group reached (16.75) and standard deviation (0.50) as the value of calculated (T) (5.55), which is bigger than the tabulated value which is equal to (2.45), the difference between the two sets is significant in the post tests.

In Achievement test (run 200 meters) was the arithmetic mean of the experimental group (24.57) and standard deviation (0.42) while the mean in the post-test for the control group (25.04) and standard deviation (0.14), as the value of calculated (T) the (2.05), which is smaller than the tabulated value (equal to (2.45)), Since the calculated value smaller than the tabular value so not significant difference between post tests for the two sets of research

After noting the table (4) found that the experimental group is the better in the development than the control group in broad jump test , the researchers attribute that to the method of compound training used for the research sample and its success in developing the qualities of power (explosive and distinctive fast) with the strength of muscles of legs dramatically, so must attention to these groups through exercises performance and through the compound training method and a way of periodic training with high intensity and this is confirmed by (Mohamed Nasr El Din Radwan 1985.101), as was done with the maximum force and the shortest amount of time to for linking the power with speed and increase the interoperability ability between them and this is what runners characterized by (200 meters, which is found in the consistency of their performance and aesthetic by connecting the two components together)

In the test of throwing medical ball, the experimental group developed over the control group to the great . the attention given by the researchers to develop the strength of the arms and legs, which shows their impact in the development of skilled performance of the experimental group the greatest importance depending on the type of skilled performance, as there is a positive relationship between the strength of the arms and the level of skilled performance (run 200 meters), where the greater the strength of the arms whenever enables the player to control the coordination between body parts for the relative movement

The test of bending knees was development of the experimental group more than the control group , as agree with what the researchers was said (Muhannad Abdul Sattar, 2001.81) "There is a scientific fact to be a stand with it : the exercises used in the training curricula lead to the development of performance because it is built on a scientific foundations in organization the training process and the use of suitable load noting the individual differences and training under good conditions and under the supervision of trained professionals the training programs organized according to the scientific principles raise the physical and skilled level of the players. "This is confirmed by (Hanafi Mahmoud Mokhtar, 1998.97), "said the player who has strong muscles, can perform skill by force and speed in the game under the pressure of the body

The lack of development of the achievement (lack of significant differences in posteriori test between the two sets of research , researchers attribute the cause of that achievement cannot be developed through short periods of time because the work and continued exercise and high technique for stages of sprinting 200 meters needs skilled performance to achieve the feat for about a year, including the promise of exercises variety and limited according to the requirements.

9. CONCLUSIONS

1. The use of compound training (exercises of the biometric weighting and special in the development in the performance run 200 meters contributed to the development of different kinds of muscle strength and thus achieve the goals of the research hypotheses
2. The training curriculum that was used had a positive effect on the development of effective in the development of muscular strength which is reflected in the skilled performance for the stages of jogging

10. RECOMMENDATIONS

1. The need to emphasize that the exercises of the biometric weighting are similar to the skilled performance through motor track and the speed and muscle and participation of general muscles and their development in the exercise ran 200 meters.
2. Provide the necessary supplies to perform exercises and the biometric weighting and use them by scientific methods

REFERENCES

1. Alaa Fouad Saleh Alois, Master Thesis, the effect of exercise in the development of speed carrying and accomplishment ran 400 meters to runners aged 1718 years, 2009
2. Abdul Razzaq Kazim al-Zubaidi; impact of proposed approach for own muscle strength in developing the performance of some of the own skills and requirements on the table of land movements on gymnastics players aged (13-15 years), PhD thesis (unpublished) Faculty of Physical Education, University of Baghdad 0.1999
3. Talha Hossam El Din Hussein; the motor foundations of sports training: (Cairo, Dar el fikr al Araby for Printing and Publishing, 1994)
4. Qais jeyad khalaf, khalaf Ala Haider 2013: Disabled Sports , methodology basics: Iraq, Diyala, Diyala Press Central 0.2013
5. Mohammad Hassan Allawi: The Science of sports training, first edition, dar el maarif, Egypt, 1986
6. Mohamed Nasr El Din Radwan: the impact of speed exercise on the ability of muscle of the arms and legs, a comparative study, Journal of Studies and Research, Volume 8, Helwan University, 1985
7. Mohammad Yousuf Sheikh Yassin and Yassin Sadiq: sports physiology and training, Dar elfikr al Araby , Alexandria
8. Mohamed Sobhi Hassanein: evaluation and measurement in physical education and sports, c 1, i 2, dar el fikr al araby, Cairo 0.1987
9. Nadir Abdul Salam Awamry: Effect interesting universe on the reaction, the Journal of Studies and Research, Issue 2, Helwan University, 1983
10. Nawal Mahdi Obeidi and others: athletic training, Library and Archives, Baghdad, 2009, p 137
11. Mohammad Ridaha Ibrahim: field Application, theories and methods of training, Baghdad, 2008, p 615.

Address for correspondence:

Author: Dr.Alaa khalaf Haider, Diyala University College of Physical Education.

E-mail: Alaakh.sport@yahoo.com