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Original article

EFFECT OF CLUBBELL EXERCISES ON CERTAIN PHYSICAL VARIABLES AND PERFORMANCE LEVEL OF JAVELIN THROW

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Abstract

Aim. The most ancient weapon, the club, evolved over millennia into devastatingly effective martial arts worldwide. Many cultural martial traditions across the planet utilized the club not just for combat, but for restorative health and developed strength: Indian Kalaripayat, Iranian Pahlavani, Okinawan Karate and Russian SAMBO.The aim of this study was to investigate that Effect of Clubbell exercises on certain physical variables and performance level of javelin throw for male college students.

Methods. Thirty male students fromfirst Grade at the Faculty of Physical Education, Mansoura University for the academic year 2012/2013 AD, divided into two groups. The experimental group (n = 15) performedClubbell exercises training and control group (n = 15) performed traditional exercise.

Subjects were required to read and complete a health questionnaire and informed consent document; there was no history of injuries, diabetes or recent surgery.

Results. Significant Difference between the experimental group and control group in Standing Long Jump Test, Sit and Reach Test, Softball throw test Handgrip Strength (lift), Handgrip Strength (right), Static strength test (BS), Modified Bass Test and Performance level of javelin throw for posttest to the experimental group. No Significant Difference between two groups in Static strength test (LS), Flying Start 30m Sprint**.**

Conclusion. under the condition of our study, Clubbell exercises intervention for eight weeks has a beneficial effect on certain physical variables and performance level of javelin throw for male college students.

Key words: Clubbell exercises, javelin throw, Strength. Balance

Introduction

Became athletic achievements and records achieved and shatter before going to the competitions on the athletic fields, according to the findings of the studies and scientific research, and thus became the competitions are in scientific laboratories.

Sports movement has seen in recent decades has made a big leap limit of human capabilities beyond all barriers and elevate to achieve the figures in the past of pure imagination.

Athletics is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking. The simplicity of the competitions, and the lack of a need for expensive equipment, makes athletics one of the most commonly competed sports in the world. Athletics is mostly an individual sport, with the exception of relay races and competitions, which combine athletes' performances for a team, score, such as cross-country. (Halliwell, Gutteridge, 1999)

Javelin is one of the competitions throwing in track and field events.Is also considered one of the oldest sports practiced by the first man in ancient times with the aim of fishing and the preservation of life as it is marked lead from Jerry approaching. unlike competitions flinging the other also features a spear as one of the tools at least a relative weight in throwing competitions and thus allows the shaft to acquire high-wheel acceleration, which can cut from a greater distance.

The javelin competitions one of the core sports competitions in track and field and is intended to throw the javelin for the farthest distance possible. In addition, refers (Bastawisi, 1997), it is one of the competitions, which are characterized by chucking the longest path for the rest of kinesthetic throwing contests where phase involves approaching.

It is noteworthy (Zaki, Adel, 1994) that access to the technical performance of the ideal javelin throw must reconcile the student in linking two important factors, namely the speed of approaching situations and flinging different.

The Clubbell became commonly which used in sports training.It looks like a baseball stick and made of wood or iron, and usually weights ranging from 2 psi to 45 psi, and a length of 18-29 inches. In addition, the use of one Clubbell in training can

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achieve the benefits of physical and numerous health, and use of two Clubbell in training provides diversity training in the use of forms in addition to maximizing the benefits gained from the practice of one Clubbell.

In addition, refers (Amr, 2013) that the Clubbellexercises is considered one of the shapes of training recently used in the field of sports.It is one of the cornerstones of the system of strength training ring, which combines tradition and modernity, and that by blending modern science in ways that training older. and is the performance of through the work of weights in different directions, and this work allows multiple variations of the working muscles, compared dumbbell, as well as to reduce the risk of injury, where the swing Clubbell rather than lift it, adds Scott (2006) that helped to spread the system strength training ring in general and Clubbellexercises is particularly avoided the restrictions traditional training in addition to the benefits of fitness and health and high distinctiveness diversity kinetic compared training methods Other.

In addition, refers (Amr, 2013) that the strength training ring system consists of three main components exercises (Intu-Flow), Yoga exercises (Prasara yoga) and Clubbellexercises.

He adds that the Clubbell exercises are exercises performed movements through the three plane of movement (accidental - Horizontal - sagittal), compared to forms other training which is often performed through a single axis or two axes, making it one of the best tools used functionally.

The aim of this study was to investigate that Effect of Clubbell exercises on certain physical variables and performance level of javelin throw for male college students.

Methods

Experimental Approach to the Problem

Two groups (experimental and control) performed a pre and post - training designed intervention in which Standing Long Jump Test,Sit and Reach Test,Softball throw testHandgrip Strength (lift),Handgrip Strength (right),Static strength test (LS), Flying Start 30m Sprint, Static strength test (BS), Modified Bass Test and Performance level of javelin throw. The experimental group (EG) (15male students) trained 1 hour per day 3 times a week on Clubbell exercises for eight weeks. The control group (15male students) continued their normal training, while the experimental group completed Clubbell exercises program to see whether this type of training modality would have a positive or negative or no effect on physical variablesand performance level of javelin throw among colleague students.

Samples

Thirty male students fromfirst Grade at the Faculty of Physical Education, Mansoura University for the academic year 2012/2013 AD, divided into two groups. The experimental group (n = 15) performed Clubbell exercises training and control group (n = 15) performed traditional exercise.

Subjects were required to read and complete a health questionnaire and informed consent document; there was no history of injuries, diabetes or recent surgery.

Conditions of sample selection **:**

- Do not chronological age for at least 16years and not more than 18 years .
- Have a desire to participate in the search and regularity until the end of the experiment .
- Do not have a previous history of patients or their injuries predecessor .
- Student's developments and non-survivors of the restart .
- Is enrolled in a school that people are taught by the researcher.

Reasons for selecting community and the research sample:

- Javelin last contest is taught in core courses of the second semester of the first year students at the Faculty of Physical Education - Mansoura University.
- Student's research community have no previous experience of competition javelin (beginners).
- Possibility of the availability of stadiums, as well as hardware and tools within the college, and used by researchers to achieve the objectives of the research.

Testing Procedures

Subjects were assessed before and after eight weeks of functional strength training program all measurements were taken one week before and after training at the same time of day. Tests followed a general warm-up that consisted of running, calisthenics, and stretching.

Modified Bass Test of Dynamic Balance

Indicate with tape, a series of footsteps on the floor. Space them according to your normal walking stride, maybe just a bit more. The object is to stand on the first step on the ball of one foot, the other is held off the ground with bent knee. Hold this static position for 5 seconds. Assuming you are starting on your right foot, hop to the next step, landing on your left foot and hold a new static position on the ball of your foot for 5 seconds. Continue down the line of steps until you are done. It is like the childhood game of hopscotch except you switch feet. It is a combination of static and dynamic balance. Professionals would assign a pass or fail grade based

on whether you touched the ground or failed to maintain the static pose, but for our purposes simply keep practicing it and take note of improvement.

Static strength test (LS) (BS)

A Takei leg and back dynamometer was used to measure the static leg strength. The subjects stood on the dynamometer platform and crouched to the desired leg bend position, while strapped around the waist to the dynamometer. At a prescribed time they exerted a maximum force straight upward by extending their legs. They kept their backs straight, head erect and chest high. 3 trials were allowed to the subjects and the best score was taken. Subjects had a rest between the trials (Jensen &Fisher).

Hand Grip Strength Test

The purpose of this test is to measure the maximum isometric strength of the hand and forearm muscles.

The subject holds the dynamometer in the hand to be tested, with the arm at right angles and the elbow by the side of the body. The handle of the dynamometer is adjusted if required - the base should rest on first metacarpal (the heel of the palm), while the handle should rest on middle of four fingers. When ready the subject squeezes the dynamometer with maximum isometric effort, which is maintained for about 5 seconds. No other body movement is allowed. The subject should be strongly encouraged to give a maximum effort.

Flying Start 30m Sprint Test

- Equipment: 40 m tape measure, stopwatch.
- Target Population: Games players or anyone who is injury free.
- Advantages: Gives an idea of speed regardless of reaction time.
- Disadvantages: Subject to timing errors.
- Procedure: Mark out a 40 meter run with a 'timing' start line 10 m into the run. Using a standing start run the 40 m as quickly as possible. Have someone start the run and time it from the 10 m line to the 40 m line, so a flying 30 m time is gained.

Sit and Reach Test

- Equipment: Sit and reach box, marking slider.
- Target Population: Everyone without injury.
- Advantages: Simple to administer.
- Disadvantages: Only measures hamstring flexibility.
- Procedure: Sat down with straight legs and the feet flat against a box with a ruler on top of it the subject reaches forwards with their arms and fingers outstretched and tries to stretch past their toes. The length of the stretch is measured in centimeters at the fingertips. Past the toe, line is a positive reading. Not reaching the toe line is a minus reading.

Standing Long Jump Test

To undertake this test you will require:

- Long Jump pit
- 30 meter tape measure
- Assistant

Conduct the test

- The athlete warms up for 10 minutes
- The athlete places their feet over the edge of the sandpit, crouches down and using the arms and legs jumps horizontally as far as possible landing with both feet into the sandpit
- The assistant measures and records the distance from the edge of the sandpit to the nearest impression made by the athlete in the sand pit
- The athlete repeats the test 3 times
- The assistant uses the longest recorded distance to assess the athlete's leg strength

Softball throw test

The softball throw is a track and field event used as a substitute for more technical throwing events in competitions involving Youth, Paralympic, Special Olympics and senior competitors.

The general rules for the softball throw parallel those of the javelin throw when conducted in a formal environment. but the implement being thrown is a standard softball, which resembles the size of a standard shot put but is considerably lighter.

Statistical analysis

All statistical analyses were calculated by the SPSS statistical package. The results are reported as means and standard deviations (SD). Differences between two groups were reported as mean difference ± 95% confidence intervals (meandiff ± 95% CI). Student's t-test for independent samples was used to determine the differences in fitness parameters between the two groups. The $p<0.05$ was considered as statistically significant.

Results

Table 1. Anthropometric Characteristics Training experience of the Groups (Mean ± SD)

Group	N	Age [years]	Weight [kg]	Height [cm]
Experimental	15	19.17 ± 0.4	71 ± 2.9	177 ± 3.98
Control	15	19.09 ± 0.6	70 ± 3.1	178 ± 4.12

Table 1 shows the age and anthropometric characteristics of the subjects. There were no significant differences were observed in the anthropometric characteristics for the subjects in the different groups.

Table 2. Mean ± SD and "T" Test between the two Groups (experimental and control) in Dynamic balance, Hand Grip Strength, Static strength test (LS) (BS)andPerformance level of javelin throw

Variables	Experimental group		Control group		Sign.
	Before	After	Before	After	
Standing Long Jump Test	2.15±0.23	2.25± 0.31	2.19 ±0.21	2.20 ±0.29	S
Sit and Reach Test	5.15±1.43	6.74 ±1.68	5.52 ±1.52	5.81 ±1.71	S
Softball throw test	37.19±1.16	40.36 ±1.19	37.53 ±1.04	38.21 ±1.11	S
Handgrip Strength (lift)	24.00±2.18	26.25 ±2.36	23.71 ±2.48	24.12 ±2.15	S
Handgrip Strength (right)	29.80±3.30	31.80 ±3.50	28.90 ±3.18	29.05 ±3.49	S
Static strength test (BS)	152.85±5.84	159.91±5.67	151.48±6.54	153.12±5.53	S
Static strength test (LS)	168.74±6.63	172.79±6.42	168.63±7.16	169.66±6.37	NS
Flying Start 30m Sprint	5.99±0.18	5.82 ±0.23	5.96 ±0.14	5.90± 0.26	NS
Modified Bass Test	62.74±4.48	70.85 ±4.76	61.19 ±4.92	62.25 ±4.55	S
Performance level	19.19±2.73	23.35 ±2.81	19.37 ±2.88	21.17 ±2.73	S

Table 2 shows that:

1.Significant Difference between the experimental group and control group inStanding Long Jump Test,Sit and Reach Test,Softball throw testHandgrip Strength (lift),Handgrip Strength (right),Static strength test (BS), Modified Bass Test and Performance level of javelin throw for posttest to the experimental group.

2.No Significant Difference between two groups in Static strength test (LS), Flying Start 30m Sprint.

Discussion

This study assessed the effects of aneight weeks functional training program, on the powerful, complex movement performances, Experimental results indicated that all variables were significantly increased in the experimental group only after the functional training program.

Due researchers occurrence of these changes to good Clubbellplanning exercise program and rationing training loads in a scientific manner appropriate to the stage of the Sunni and training for research sample.Where the patron researchers training loads graded during the application of the program by training muscle groups different, especially the muscles of the centre, arms and legs and the concentration of the researchers on the muscle groups working during the throw spear, causing it to improve the physical abilities under discussion.

This is confirmed by (Richard, 2010) of the exercises Mace is working on raising spinners muscle resulting in a high tension in motor units liberated and exciting for other receptors are working on increasing the number of motor units active and which are the reason for the increased power output.

This is consistent with (Essam, 2005) that the physical setting affects the development of physical abilities and motor of muscle strength and endurance, speed, agility, flexibility, and vehicles such as power characteristic speed and carrying power.

It is noteworthy (Abdul Aziz, Nariman, 1996) that the muscle strength necessary for most sports activities, stronger and larger hand him the longest in the case of the convergence of the technical level as well as they play an important role in the progress of many skills.

This confirms (Hassan, 2002) that muscle strength is that it is based and individual access to the highest levels of the tournament, as they affect a large extent on the development of some physical attributes such as speeding, endurance and agility.

In the opinion of the authors that these exercises work on the occurrence of prolongation involuntary muscle material to the joints, which would generate daytime systolic intramuscularly involuntary works to raise the sensory organs other and thus increasing the number of motor units in the working muscles on these joints, which are necessary to increase muscle strength, as well as to match the Clubbellexercises with movements that performed in competition

This is consistent with the findings of the both of the important Hassanein (2013) , Seyed, et al. (2010), (Amr, 2013) where these researchers found that the exercises Mace has a positive impact on the ability of muscle and level digital javelin

In this regard mentions (James, 1999) that in athletics is not important to the size of the force produced by the muscle to make the effort, but the most important is the time required for this effort and in many competitions do not have the player, but a very short time for the performance.

In addition, reinforces that (Abeer, 2005), (Ramzi, Imam, 2006) where these researchers agree that the training programs offered to have a positive impact on the digital level.

In addition, is consistent with the findings of (Abeer, 2005) that the proposed training program, which was designed according to the analysis of drill-like locomotors.Performance led to the development of explosive power and level digital.

This is confirmed by (Marwan 2003) of that training on skill alone is not enough to improve this skill and get fruitful results, as it is next to the development of the skill to be the development of motor skills for the skill itself.

And sees (Amr, 2008) that the relationship between basic skills for any sport and requirements different physical (public, private) is a close relationship must be taken into account when preparing the players, and that there is no separation between the two settings skill and physical. but on the contrary should be the development of the physical elements are consistent with the requirements of skill, it achieves success in the training process and thus raise the level of the players, when the player has the physical attributes a high degree can perform all the skills are good.

This is confirmed by (Kamal, Subhi, 2001) that success in any essential skill defensive or offensive needs to develop components of the physical necessary contribute to the dramatic performance is perfect and that all essential skill contributes to their performance according to their nature more than one ingredient workout.

The results of this study are consistent with a study of all (Amr, 2008), (Marwan, 2003) that the improvement in physical variables contributes to the improved level of performance skills.

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