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EFFECT DRILLS ON ACCORDING TO THE LAW OF INERTIA IN IMPROVING SOME VARIABLES KINEMATICS AND THE ELECTRICAL ACTIVITY OF MUSCLES OF THE LEGS IN THE EFFECTIVENESS OF THE LONG JUMP

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Abstract
Study aimed designing drills according to the law of inertia in improving some variables kinematics and the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class. Identify the effect drills on according to the law of inertia in improving some variables kinematics and the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class.
Method. Researchers used the experimental the curriculum to suitability nature of the problem. Formed research community players clubs area of Mahaweel and numbered (10) players of the effectiveness of the long jump for the sports season from 2012 to 2013, was chosen as community full sample, were divided into two groups (control and experimental) random method and each group (5) players. The application took drills in accordance with the law of inertia (10) weeks, (2) training unit per week for a total of units (20) and educational unit training. A time ceiling (120) minutes allocated (45-60 minutes) for special exercises with respect to the experimental group, while the control group was applied vocabulary of training curriculum used by the coach. Researchers have resorted to use set of tests (physical tests, tests EMG tests analysis biomechanics), the focus of the study. After obtaining the results were processed statistically using statistical bag Readymade (SPSS).
Conclusions. The results showed that there are real effects of reality drills according to the law of inertia in the improvement of some indicators variables kinematics and electrical of Planning for the muscles of the legs between the tribal and post tests for experimental research group and in favor posteriori tests. The results showed that there are significant effects between the tribal and posteriori tests to control research group in improving some variables kinematics and electrical of Planning indicators of the muscles of the legs between pre and post tests for experimental research group and in favor posteriori tests.
Keys words: law of inertia, force, myoelectric activity.

Introduction

Definition searching: that studies dealing with the laws of mechanical a scientific manner in the field to assist in assessing and evaluating training and physical preparation in conformity and get the results that will help workers in the field of athletics in general and the effectiveness of the long jump is particularly to know their success in raising the levels and physical capacities and physiological skills of their players. That the effectiveness of the long jump events, which saw a big development in the way of performance and achievement of achievement that have made to win a difficult task on the player, so the study and analysis of the variables relied upon by the performance efficiency, especially phase of the Advancement and aspects of biomechanics affecting and that work on developing performance skills and reach to best performing. The Force of the most prominent components of physical preparation needed by the effectiveness of the long jump and affecting the achievement of the Registrar. As if available with factors good performance and detailed knowledge of the stages of technical performance as the effectiveness of the long jump requiring the player to smooth motor performance and speed reaction high power explosive quick muscle legs and compatibility neuromuscular and foregoing stand out the importance of research in the development of ideas Applied as well as interdependence is important between processes physiological anatomy and their impact on what happens from movements related to performance skills effectively the long jump and as that is in harmony with the goal of this performance and therefore lies the importance of research in the application of the laws of mechanical training to develop Special Force and connecting side physiology of the muscles operating

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and side kinematics for performance and represented by effectiveness the long jump.

*Problem of the research***: f**ollow through researchers field Track & Field in general and the long jump in particular, and Note The club competitions and Iraqi universities generally noticed a weakness in the performance skills for the long jump and specifically the stage Advancement of and jump when performance efficiency was therefore due interest in stage by some trainers and researchers not only in terms of training programs, but in terms of upgrading the technical performance (technique) for this skill to the best solution by focusing on training using exercises, equipment and cutting-edge technologies to help it and the fact that all movements player such as jogging, jumping and throwing requiring contraction "muscular" a decentralized ".Proceeded by "adverse movement of the movement required and this means that the muscles stretch before shrinking in the desired direction and a lot of scientific the sources which confirm that the stretch that precedes contraction enhances fill the resulting force when performing central constriction for the same muscle movement such as the Advancement of. This trend training required officials to the training process to use exercises to develop new job muscle based on the chewy muscle and the possibility of effect this exercise in the development of the movement from the side mechanical prompting the Researchers to study these ideas through application exercises according to Newton's first law of the muscles and their effect on activity neuromuscular the aim of improving the technical performance of the athlete and reach it to the highest level, particular in the effectiveness of the long jump in the junior class players sample.

*Research objectives***:** 1 - Recognize some kinematics variables of the effectiveness of the long jump junior class.2 - Recognize the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class.3 - The planning of exercises in accordance with the law of inertia in improving some variables kinematics and the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class.4- Recognize effect training according to the law of inertia in improving some variables kinematics and the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class.5 - Recognize on the differences between the experimental and control groups in the improvement of some variables kinematics and the electrical activity of the muscles of the legs of the effectiveness of the long jump junior class.

*Research hypotheses***:**

1 - No significant differences statistically significant between the tribal and posteriori tests in research variables being studied for both groups and for tests posteriori.

2 - There are significant differences statistically significant posteriori tests in research variables being studied for both the control and experimental groups in favor of the experimental group.

Fields of research:

1.The human sphere: players spend Mahaweel junior class 2012-2013.

2.The temporal sphere: 9/122/2012 until 22/3/2013.

3.Sphere domain: stadiums Mahaweel area, stadiums and laboratories Babylon University - College of Physical Education.

Keys words:

1. Law of inertia: - the motion of a system in the absence of externally applied force. Simply stated, a system at rest will remain at rest, and a system in motion will remain in motion in a straight line until acted upon by an external force. (McLester and Peter, 2008)

2. Force -Something that possesses the capability to cause a change in motion of a system. (McLester and Peter, 2008)

3. Myoelectric activity:- electric current or voltage produced by a muscle developing tension. (Michael, Burke, Arakian, 2000)

*Research methodology and field procedures***:**

1. Research Methodology**: r**esearchers used experimental method for suitability nature of the problem to achieve the objectives of the research.

2. Research community sample**: s**elect researcher's youngsters' community clubs spend Mahaweel effectively the long jump and numbered (10) was chosen sample intentional way for the 2012-2013 sports season. It was divided into two equal groups (experimental, control) and by (5) players per group, was calculated uniformity and parity between the two variables (height, age, mass) as well as (chart indicators electrolysis of muscles and some variables kinematics and achievement).

3. Means and tools and devices used in the research:

Researchers used the following research means:

- sources and arab and foreign references;- observation and experimentation;- testing and measurement;- legal field long jump;

- tape measure (Ahmed Abdel Fattah Abu Ela,1999);- colored duct tape;- medical balance (kg) to measure weight;- type sony video camera (Ahmed Abdel Fattah Abu Ela, 1999);- laptop computer – core-tmi 3 (Compact precario 2 G) del;l;- CD Player CD, DVD;- alcohol and cotton wool for cleaning;- razor blades to remove hair on where to place the

electrodes;- electrical activity EMG device German-made (Ahmed Abdel Fattah Abu Ela, 1999).

Identification tests**:**

The researchers identified the most important tests of research topic, as follows:

1- Long jump test a steady:

- the purpose of the test: - Measurement of the electrical activity of the muscles of the legs to jump in front.

- tools required: - an appropriate place for the player displays (1.5) m and Length (3.5)m Consider it to be levels Device (EMG), (Laptop), cotton, alcohol.

- description of performance: the lab stands behind the starting line and the pickup is pasted shallow above the middle of the top eight muscles of the muscles of the legs and two rectus femoris and biceps femoris and brutality twin anterior tibial and the left and right leg. The little feet are widely spaced and parallel so that it comes into contact with a comb footed the starting line from the outside. The lab and starts moving the arms back with your knees bent and a tendency forward a little and then the pickup forward as far away as possible by extending the knees and push bipeds with moving arms forward.

- bipeds grades: the works of this device to receive electrical muscle mediated wire hyphen

First exploratory experiment

Researchers conducted numbering exploratory experiments for a period of 3 - 9/12/2012, in golf spend Mahaweel and the sample amounted to Osama full salary, 1999, are from the research sample was intended to:

- getermine the distance of the device which receives a Bluetooth signal from a device EMG.

- identify and determine the distance of the cameras for the effectiveness of the long jump performance - the application of a training module to identify training requirements all 3-6 the main experience:

The tribal tests:

-tribal been testing the sample at 13/12/2012 in track and field stadium to spend Mahaweel.

-Video filming and measurement of variable moment of inertia: the researchers filmed the sample search (experimental and control groups) from the moment of advancement to the moment of landing in the pit through a camera video proved vertically on a point mid-motor performance of the player long jump and that was away from the plate advancement (6.40) meters, and reached high lens camera ground (1.26 m) was filmed scale in the previous mid-point; after the completion of the filming in the extraction of the moments of inertia legs during each stage of advancement after some variables were extracted for the Advancement of phase (focal angle, between him and the pickup over muscle and sends this device signal EMG in the form of a reference Bluetooth receiving device (Type 044 (Pc Interface Model tied a computer personal (Laptop) to be information processing program MyoResearch XP 6.1.67), it is the duty of this program EMG signal and stored in the form of raw EMG signal above the name of the muscle, and can make several of these processors later reference.

2.Long jump test from approaching (digital level):

- the purpose of the test: index to measure the distance between the plate for the Advancement of and place of landing the player;

- the necessary tools:an appropriate place for the player includes the pit and jogging, a tape measure, camera filming Video, phosphorus signs, drawing scale;

- description of performance: jogging fast approaching full distance starts player performance hopscotch or stage of the lead leg jump, then performed a step the second stage of jump and then jump and landing legs together in the landing pit;

- account grades: measurement of the starting line until the last part of the body touches the ground in terms of this line.

- knowledge of the errors that may accompany the experimental work and how to develop appropriate solutions

- locate the pickup on four muscles of the legs.

angle advancement, the angle of starting, the starting speed)

Training Curriculum: promising researchers exercises according to the law of inertia and depending on the variable mass increase, which ranged (2-5%) kg of mass block leg and adult (16.1%) of body mass total, and through knowledge of body mass total was extracted block leg right and in comes laws used in the extraction of the moment of inertia:

Block leg right = body mass x the relative weight of the leg ÷ 100

LAW of inertia = mass of the leg x radius Squaring (length)

And invested in the development of private strength and develop the research sample in the long jump, where they can get a player on the positive impact of training increase the burden it through exercises using jump inhibitions and terracing as well as the relative weights are added to the leg and arm during training. The time of the training share took (40 minutes) During a period of 10 weeks at a rate of three training units in the week, And was started the implementation of the curriculum on Sunday 16/12/2012 and ended on Wednesday20 /2/2013.

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Posttest: testing posteriori sample search experimental and control groups after the completion of the application training units and on Sunday and Monday, which falls2013/2/22

Variables measured kinematics:

- pivot angle: the angle between the line connecting the center of mass of the body and Pivot Points (foot) for a moment touched the ground and the line passing from the point of Pivot Points parallel to the ground.

- advancement of angle: the angle between the line connecting the center of mass of the body and Pivot Points (foot) for a moment before leaving the ground and the line passing Pivot points parallel to the ground.

- the starting angle: the angle between the line connecting the center of masses of the body before starting and after starting directly with the line passing horizontally of body mass before setting off.

- Speed of departure: It is the result of dividing the starting distance (the distance traveled by the center of mass of the body for a moment and after leaving the ground) at the time of this distance.

Statistical methods: Statistical bag was used (SPSS) in the treatment of these results and by the following laws: (arithmetic mean. Standard deviation, the test (t) of the analog samples, test (t) for the independent samples).

Results: 1 shows the results of tests for the working muscles indicators on the legs and some kinmeteki variables and achievement for the two sets of control and experimental research;

Display the results of the tests for the working muscles indicators on the legs of the two sets of control and experimental research.

Table no.1. The statistical landmarks of indicators musculus rectus femoris left and right between the tribal and post tests to sample

Group	muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
			Mean	Std. Deviation	Mean	Std. Deviation		
Experimental	Rectus Femrois Right	Amplitude	468.600	20.476	669.800	44.634	9.387	0.001
		Area	179.000	13.693	268.600	13.049	7.990	0.001
		Duration	0.560	0.020	0.500	0.018	3.651	0.022
	Rectus Femrois Left	Amplitude	468.600	14.570	572.000	30.846	7.287	0.002
		Area	179.400	12.361	286.600	9.762	12.350	0.000
		Duration	0.560	0.020	0.500	0.018	3.651	0.022
control	Rectus Femrois Right	Amplitude	464.200	18.579	586.400	47.553	-5.597	0.005
		Area	181.400	11.886	224.600	13.867	5.454	0.005
		Duration	0.578	0.013	0.536	0.008	4.583	0.010
	Rectus Femrois Left	Amplitude	470.200	15.254	505.200	12.930	-7.620	0.002
		Area	180.400	12.700	241.600	7.056	7.853	0.001
		Duration	0.578	0.008	0.536	0.005	7.203	0.002

* Significant at the degree of freedom (4) and error ratio <0.05

Table no.2.The statistical landmarks of indicators biceps left and right between the tribal and post tests to sample

Group	muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
			Mean	Std. Deviation	Mean	Std. Deviation		
Experimental	Biceps femoris Right	Amplitude	384.800	13.103	573.600	21.454	14.683	0.000
		Area	263.000	14.352	356.000	59.211	4.232	0.013
		Duration	0.588	0.008	0.502	0.007	16.710	0.000
	Biceps femoris Left	Amplitude	377.400	12.177	470.600	38.253	5.076	0.007
		Area	261.400	14.707	381.600	12.461	14.113	.000
		Duration	.5656	.011	.5020	.008	12.249	.000
control	Biceps femoris Right	Amplitude	386.2000	12.255	468.200	22.687	14.946	0.000
		Area	264.600	14.363	273.000	6.964	.912	0.413
		Duration	0.569	0.011	0.544	0.011	4.184	0.014
	Biceps femoris Left	Amplitude	379.200	11.031	417.400	15.836	-8.155	0.001
		Area	263.200	15.287	296.600	3.209	4.206	0.014
		Duration	0.580	0.015	0.544	0.011	4.431	0.011

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* Significant at the degree of freedom (4) and error ratio <0.05

Table no.3.The statistical landmarks of indicators tibial muscle left and right between the tribal and post tests to sample

Group	muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
			Mean	Std. Deviation	Mean	Std. Deviation		
Experimental	tibiales Anterior Right	Amplitude	359.400	10.212	484.200	30.719	9.291	0.001
		Area	251.600	11.567	316.600	14.099	18.534	0.000
		Duration	0.472	0.013	0.396	0.018	9.355	0.001
	tibiales Anterior Left	Amplitude	354.800	9.808	484.400	25.735	8.723	0.001
		Area	225.800	11.344	288.600	5.504	17.067	0.000
		Duration	0.506	0.016	0.464	0.015	7.203	0.002
control	tibiales Anterior Right	Amplitude	361.800	11.211	406.000	16.718	-10.238	0.001
		Area	254.000	10.862	284.200	20.029	2.615	0.059
		Duration	0.480	0.012	0.446	0.015	6.668	0.003
	tibiales Anterior Left	Amplitude	356.600	11.104	398.800	13.663	-6.925	0.002
		Area	254.000	10.862	284.200	20.029	2.615	0.059
		Duration	0.510	0.014	0.488	0.013	3.317	0.029

* Significant at the degree of freedom (4) and error ratio <0.05

Table no.4.The statistical landmarks of indicators twin lateralis muscle left and right between the tribal and post tests to sample

Group	muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
			Mean	Std. Deviation	Mean	Std. Deviation		
Experimental	Gastronomies Right	Amplitude	663.400	10.334	819.400	19.982	16.911	0.000
		Area	258.200	10.034	354.600	12.778	11.807	0.000
		Duration	0.528	0.039	0.466	0.034	4.571	0.010
	Gastronomies Left	Amplitude	659.000	9.772	817.000	36.523	9.737	0.001
		Area	331. 000	13.838	428.200	12.316	8.337	0.001
		Duration	0.526	0.027	0.426	0.005	9.535	0.001
control	Gastronomies Right	Amplitude	665.200	9.757	720.000	25.942	-6.832	0.002
		Area	259.600	8.142	300.200	11.691	6.144	0.004
		Duration	0.538	0.037	0.510	0.023	3.500	0.025
	Gastronomies Left	Amplitude	661.200	9.284	724.200	35.166	-4.706	0.009
		Area	332.800	14.923	337.200	8.899	.937	0.402
		Duration	0.534	0.033	0.494	0.011	2.638	0.058

* Significant at the degree of freedom (4) and error ratio <0.05

Table no.5. The statistical landmarks of indicators muscles rectus femoris left and right between the two tests post tests sample

Muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation		
Rectus Femrois Right	Amplitude	663.400	669.800	44.634	586.400	47.553	2.859
	Area	258.200	268.600	13.049	224.600	13.867	5.167
	Duration	0.528	0.500	0.018	0.536	0.008	3.882
Rectus Femrois Left	Amplitude	659.000	572.000	30.846	505.200	12.930	4.466
	Area	331. 000	286.600	9.762	241.600	7.056	8.353
	Duration	0.526	0.500	0.018	0.536	0.005	4.129

* Significant at the degree of freedom (8) and error ratio <0.05

Table no.6.The statistical landmarks of indicators biceps left and right between the two tests post tests sample

Muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation		

Biceps	Amplitude	573.600	21.454	468.200	22.687	7.548	0.000
femoris	Area	356.000	59.211	273.000	6.964	3.113	0.034
Right	Duration	0.502	0.007	0.544	0.011	6.877	0.000
Biceps	Amplitude	470.600	38.253	417.400	15.836	2.873	0.021
femoris	Area	381.600	12.461	296.600	3.209	14.770	0.000
Left	Duration	0.502	0.008	0.544	0.011	6.641	0.000

* Significant at the degree of freedom (8) and error ratio <0.05

Table no.7.Shows the statistical landmarks of indicators tibial muscle left and right between the two tests post tests sample

Muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation		
Tibiales	Amplitude	484.200	30.719	11.211	406.000	5.000	0.001
Anterior	Area	316.600	14.099	10.862	284.200	2.958	0.021
Right	Duration	0.396	0.018	0.012	0.446	4.725	0.002
Tibiales	Amplitude	484.400	25.735	11.104	398.800	6.569	0.000
Anterior	Area	288.600	5.504	10.862	284.200	5.205	0.001
Left	Duration	0.464	0.015	0.014	0.488	2.683	0.028

* Significant at the degree of freedom (8) and error ratio <0.05

Table no.8.The statistical landmarks of indicators gemellus lateralis muscle left and right between the two tests post tests sample

Muscle	Variables	Tests triball		after me		T	Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation		
Gastronomies Right	Amplitude	819.400	19.982	720.000	25.942	6.788	0.000
	Area	354.600	12.778	300.200	11.691	7.023	0.000
	Duration	9.466	9.034	9.510	9.023	2.365	0.046
Gastronomies Left	Amplitude	817.000	36.523	724.200	35.166	4.093	0.003
	Area	428.200	12.316	337.200	8.899	13.391	0.000
	Duration	9.426	9.005	9.494	9.011	12.021	0.000

* Significant at the degree of freedom (8) and error ratio <0.05

Table no.9.Shows the statistical landmarks of some Kinmeteki variables and achievement between tribal and post tests to sample the control and experimental

Group	Variables	unit of measure	Tests triball		after me		T	Sig. (2-tailed)
			Mean	Std. Deviation	Mean	Std. Deviation		
Experimental	Angle basing	Degree	67.170	1.321	71.600	2.073	5.658	0.005
	Angle the Advancement	Degree	72.826	0.818	79.600	1.341	8.653	0.001
	Angle of starting	Degree	15.748	0.426	19.064	0.536	19.010	0.000
	Speed starting	m/s	5.688	0.092	6.574	0.213	9.049	0.001
	Achievement		5.058	0.156	5.338	0.174	26.697	0.000
Control	Angle basing	Degree	67.932	1.724	69.800	1.788	2.036	0.111
	Angle the Advancement	Degree	72.670	0.498	74.902	0.902	5.030	0.007
	Angle of starting	Degree	15.994	0.486	17.246	0.655	2.834	0.047
	Speed starting	m/s	5.666	0.107	5.852	0.074	2.729	0.053
	Achievement	m	5.024	0.194	5.068	0.190	11.000	0.000

* Significant at the degree of freedom (4) and error ratio <0.05

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Table no.10.The statistical landmarks of some Kinmeteki variables and achievement between the two tests the post sample experimental and control

Variables	unit of measure	Tests triball		After me		T	Sig. (2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation		
Angle basing	Degree	69.400	1.673	71.600	2.073	1.846	0.104
Angle the Advancement	Degree	74.902	0.902	79.600	1.341	6.496	0.000
Angle of starting	Degree	17.246	0.655	19.064	0.536	4.798	0.002
Speed starting	m/s	5.852	0.074	6.574	0.213	7.131	0.000
Achievement	m	5.068	.190	5.338	.174	2.337	0.048

* Significant at the degree of freedom (8) and error ratio <0.05

Discussion

Appears clear from the tables no.1,2,3,4 above both the control and experimental groups have achieved statistically significant differences between the results of tribal and post tests and in favor of the post test. Attribute the researchers of this development to the exercises used by the sample group (control and experimental), which aims to improve the performance of the player according to scientific bases for curricula training installed in accordance with experience coach and his analysis makes sense and what distinguishes the curriculum used by the members of the research sample experimental and direction specialist, as is his goal in the development of Special Force performance to the maximum possible to achieve the highest impetus and the least possible time. The moment where the player to exert maximum force to upgrade to a high at the highest point of the moment push requiring the broad compatibility between the outcome of the forces exerted in several directions by the members of the body of joint specialist in performance in order to reach dynamic correct movement that results in economic stress and time wanted to increase the result of push strength. As increased result of push strength requires a balance "physically" in the transfer of power from one moment to based and Advancement and, which have a significant role in achieving better smooth and agree to increase result of push strength to move the body in the right direction and the right which ensures achieving greater speed starting of the body to get the best momentum (Qassim Hassan Hussein et al, 1991). And this is reflected in actual indicators the electrical activity of muscles are (index Summit, space, time), as the exercises used according to the law of inertia may addition carry on the work of muscles within angles required them which require achieve better strength and subscription what is required of the muscles Specialist which led to the smooth flow of high performance and economy and a time of instant push and thereby an increase in the result of muscle strength, force influenced by mechanical factors in terms of increased muscle work or push to take advantage of mechanical laws. (Ahmed Abdel Fattah Abu Ela, 1999). Also led neuromuscular adaptations that occur as a result of qualitative explosive training is primarily responsible for increasing the speed voluntary muscle contraction (Abdul Karim al-Fadhli, 2010) .The increase in mass index on the legs but resulted to an increase in the ability of muscle contraction as a result of (increasing the capacity of the muscle in its rubber part at the expense of the result contraction, which increases the susceptibility of muscle to work against different types of resistors (mass added) and especially over the body weight.

The performance jump in the effectiveness of the long jump require to tune "between defibrillation central and decentralized, as this rotation between constriction animated central and decentralized be a pattern of movement muscle called cycle elongation and contraction. And that increase muscle strength leading to increased capacity explosive, which leads to increase the player's ability to rise to the top (Hakkinen, Komi 1983). The physical training leads to greater discourage of the muscle activity counter, which ultimately leads to increased muscle strength resulting from the working muscles during contraction (Michael, Burke, Arakian,2000).Also appears in the tables (Qassim Hassan Hussein et al, 1991, Mohammad Yousuf Sheikh, 1996, Mohamed Mahmoud Abdel Dayem et al, 1993, Naji happiest,1999) that there are differences "between moral post-test results for the two sets of research (experimental and control) in favor of the experimental group, which has worked according to scientific bases exercises are designed according to a law of inertia indicators and goal increase the mass. Researchers believe that the force exerted in the experimental group was more smooth towards the desired performance jump of the effectiveness of the long jump, which resulted to reduce the loss of force exerted, meaning there is a compatibility dynamic composition of between the path of force and motion in terms of flow in the sense path of force in relation to time, this movement (Mohammad Yousuf Sheikh) . This means that the time of the turning point systolic between work the muscles of the an anti to systolic are faster relatively experimental group compared with the control group and this is what leads to the result capacity of the muscle of the outcome of the work of

cross between working muscles and against them in the work and efforts of the player for a moment push must be level high impact because it is the result of the result of final payment in the muscles of the body working on the joints of the body contribute to the Wireless Performance Hashim Adnan al-Kilani, 2000) . The increase in muscle strength is an important factor for the effectiveness of the long jump based on the ability of muscle, where strength training is working on characterization of the appropriate amount of force for the development of speed and capacity, and that the use of the exercises in style mass added is horizontal jump (Mohamed Mahmoud Abdel Dayem et al, 1993). Can also be noted that the exercises used during the training modules have a Ambusher impact on the ability achieved the legs that "the ability to produce the largest muscle strength in less time after prolong in inverse movement to the basic direction of motion to be implemented Naji happiest, 1999. Also shown in the table (9) that both the control and experimental groups have achieved statistically significant differences between the results of tribal and post tests and in favor of the post test. Attribute the researchers evolution is the result of exercises tailored according to law mechanic is inertia contained confirmed to develop a recipe explosive power and range of motion and the highest percentage of elongation of the muscle, which led to that the muscle to produce the energy required to cause contraction muscle fast any that "there is interdependence between speed kinetic and muscular work which is the results of the implementation of the directives of the nervous system that have been a source of evolution. "(Ahmed Abdel Fattah Abu El-Ela, Ahmed Naseeruddin,1993). For the purpose of access in the performance of the skill well, they need a longer period of training because muscular stamina is "the ability of a muscle or muscle group to continue to fatigue and performance of muscle contractions in a row to overcome the resistance of the intensity of Average and less than the maximum"(Osama full salary, 1999). Also shown in the table (Hakkinen, Komi 1983) that there are differences "correlation between the results of post-test for Group Search (control and experimental) and in favor of the experimental group reason that what has to get it from the improvement and development of all the variables for the transport kinetic, quickly starting and angles of departure and the direction and to initiate, and the consequent player's performance moves in the form in which it Connected and high sequential and smoothly through the influence of each variable in the other and achieve optimal performance that serves the target of the effectiveness of mechanical long jump, As that of the most important characteristics of the long jump has a clear goal and a specific level in the sense that it is not enough to be a player property the ability to performance, but must be performance at a level commensurate with the connotations standard for this event, and this is one of the tasks pursued by biomechanics to access effective to top level permitted by the physical abilities and mechanical influential aspects in the performance of the player influential (Abdul Karim al-Fadhli, 2010).

Conclusions

1. there were significant differences between tribal and post tests of the experimental group in the electrical planning indicators of the working muscles and favor post tests;

2. there were significant differences between tribal and post tests for the control group in the electrical planning indicators of the working muscles and for testing post tests;

3. the presence of significant differences in dimensional tests between the experimental and control groups in the electrical planning indicators of the muscles working in favor of the experimental group;

4. there are significant differences between tribal and post tests of the experimental group in some kinmetekih variables and achievement favor post tests;

5. significant differences between tribal and post tests for the control group in some kinmetekih variables and achievement favor post tests;

6. the presence of significant differences in dimensional tests between the control and experimental groups some kinmetekih variables and achievement in favor of the experimental group.

Recommendations

In the light of the above conclusions the researchers recommended the following:

1. confirmation of the application of the exercises according to the law mechanical (inertia) for the development of the neuromuscular activity of the lower limbs during the training modules;

2.confirmation of the use of electric planning of the muscles (EMG) and various muscles to see the main factors that affect the achievement of high and low level of muscle activity as a result of improvement or landing in the level of duty kinetic;

3. use electrical planning for other muscle groups to find out what occurs to the muscle of the changes and some mechanical variables and achievement;

4. necessary to analyze the work of working every muscle and versus her work to ensuring their development.

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