The Effect of Physical Exercises According to Deny Foot to Improve Some Skillful and Muscular Abilities among Fencing Young Players

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Abstract

The research problem is about the lack of previous studies concerning with deny foot for feet through using the modern technological devices that record and save the quantities of the feet strength, by using Bluetooth. The researchers noted weakness in some muscle abilities, and reduce the level of physical performance for fencing players. This study aims at preparing exercises according to Deny Foot, which was put in the feet of the players, in order to improve some skillful and muscular abilities among fencing young players as well as to recognize the effect of these exercises on improving some skillful and muscular abilities among fencing young players.

The researchers used the experimental method with the experimental design of two research groups (Equivalence), first experimental group and second experimental group. The research community of fencing competition has identified by choosing (10) players of Al-Jaish Sports Club for young people under the age of 17-18 years. The special exercises were applied for eight weeks and by three exercises units per week, the researchers used the Statistical Package for the Social Sciences (SPSS). The most important conclusions which the researchers reached that physical exercise have positively influenced on the development of some muscular abilities and skills for young fencing players. The researchers recommend the importance of investing modern devices and players in scientific colleges or specialized institutes and use them to provide a clear vision and information about the place and timelines.

Keywords: *Physical Exercises, Deny Foot, Muscular Abilities*

Introduction

The fencing sport is considered one of the sports that require special skillful abilities and special physical characteristics [1], the most important characteristic is the muscular ability because of this characteristic collect force and speed together, which the fencer depend on it directly, so the muscles ability such as which found in legs, arms shoulder and the torso has an important role[2] for the fencer not only in moving sword but it also has an important in fencer transfer speed of the fencer's chest, which rushes forward and then bounces back as the fencer performs a movement attack to make a point against the competitor or return to the standby mode to To avoid the competitor's movement [3]. The requirement to do good achievement in this efficiency is to apply modern exercise methods, based on actual experimentation, those methods aimed at improving, components of achievement in fencing [4]. From this stems, the importance of this study is to study the effect of exercise, in accordance with the magnitudes of the forces exerted, for step one, time using, a mobile device (Deny foot) in order to develop their own exercises to develop this contest, and pressure, level of performance, which reflects, the ability of the players of the physical [5] effort that is directly related to the performance development level and improving the skillful level in this competition according to scientific basis which linked with the components of its actual exercise, and thus keep up with the internationally advanced level of achievement.

Aims of the Study

This study aims at:

1. Making several exercises to improve some skillful and muscular abilities among fencing young players.
2. Identifying the effect of improving some skillful and muscular abilities among fencing young players.

Hypothesis

The researcher hypothesized the following: The exercises have positive effects in improving some skillful and muscular abilities among fencing young players.

Methodology

The researchers used the experimental method with the experimental design of two equivalence groups, first experimental group and second experimental group.

Table (1): Shows the Special Measurements of Research Sample in order to Similarity

No.	Measurements	Units of Measurement	Cm.		Mean X	Torsion
1	Age	Year	16.4	0.45	16	0.76
2	Training age	Year	6.39	3.23	6	0.41
3	Mass	Kg.	66.3	3.5	70	1.3
4	Length	M.	1.63	0.08	1.66	0.34

Table (1) shows that Torsion is null for all the values, which refers to the normal distribution which means all the members of the research sample is similarity.

Table (2): Illustrates the Equivalence by Using T-Test for the Dependent Variables of the Research Sample

No.	Statistical Process Research Variables	Units of measurement	The first experimental group		The second experimental group		T-test value	Significant difference
			-	+	-	+		
1	Wide jump test, stability	Cm.	173.5	20.42	179	15.85	0.706	Non Sig.
2	Test of medical ball throwing, sitting	Cm.	3.43.	0.22	3.47	0.46		Non Sig.
3	Test of the speed movement of feet (headway)	Sec.	4.21	0.55	4.13	0.52	1.6	Non Sig.
4	Test of the speed movement of the feet (fall back)	Sec.	4.87	0.47	4.88	0.84	0.034	Non Sig.

- At freedom degree (FD): (10-2=8) with a significance level (0.05).

Practical Framework:

Measuring System of Deny Foot

It is a system to measure the variables of deny foot on ground through every step during running, which is made up of four parts that is considered as a base to conduct data (which is considered as foot place that shoes placed in, with a connection wire for the computer which connected with the experimenter), as well as a signal receiver that linked with a laptop and receiving signals for 30 m., the system works when the experimenter put the device on his/her foot put it in the leg with the sensor steps on the experimenter 's foot, then entering the data about the experimenter's age, weight, length and sex, the system measures the variables of speed and recorded space of every step, these data may be used to food the training units to save information in the system.

First: wide jump test of stability (Ali Salloum Jawad al-Hakim: 2004: 91)

The aim of the test is to measure the muscular ability of the feet, in the forward start up.

The Used Instruments: an appropriate place for starting up with (1.5 m.) *(3.5 m.), the place must be standard and free of chalk.

The Performance Description: the experimenter stands behind the beginning line, the instep must be on the outside of beginning line. The experimenter begins to swing the arms to back with the knees bent and tilt to forward a little, and then jumps forward to the maximum by lying the knees up and pushing the feet then swing arms ahead.

Measuring points: The measurement is from the starting line to the last part of the body touching the ground. Three attempts are given to the experimenter. The experimenter is credited with the best try.

The Test of Depth Jump Height

The aim this test is to measure the muscular ability of feet.

Instruments: Board put in the wall that its bottom edge must be about 150 cm. from the ground, then it must be put in subsequently (151 to 400 cm.), chalk toe (for the purpose of marking the board). The board can be dispensed with, by putting the marks on the wall according to the performance conditions. The height of the box is 45 cm.

The Performance Characteristics: The experimenter floods the distinctive fingers of the hand of chalk prepared for it, then jumped using a box where the player stands on the box and then down to the ground trying to jump to the top instantaneously and mark the distinctive hand, where the experimenter rises with the feet with vertical jumping and touching one hand, every experimenter has three attempts to score his/her best.

Recording Way: the first mark is placed before jumping (by extending the arms high from the ground and a first mark facing the wall). Then a second mark of jumping (after landing from the box and jumping high) and the distance between the two markers, reflects the degree of experimenter testing (jump distance).

Physical Tests Including:

The sped of moving feet tests (starting up): (Yassir Muhamed Ahmed Hajar, 2007: 43-44).

The aim of the test: To measure the speed of performance progress distance of 14 meters.

Instruments used: Duct tape - 2 clocks (timers) – fencing stadium divided into two parts.

Method of doing the test: From standby position the experimenter stands on the starting line specified on the stadium so that the performance of every 2 experimenters together for the element of competition in performance when hearing the signal occupies the clock, the player progresses at full speed forward to reach the finish line and when touching the back foot the finish line closes the clock.

Performance conditions:

- The test is conducted among the players, every player in a section.
- Maintaining a standby position during the test performance.
- Perform moving forward correctly.
- Going in a straight line.
- Turn off the clock after the back foot touches the line.

Recording Way: The time is calculated for the nearest 1/100 sec., gives three tries and depended on the

best one.

*Test the speed of movements of the feet (regression) (Ibid: 44-45)

The aim of the test: measuring the speed of the performance of the regression distance of 14 meters.

Instruments used: Duct tape - 2 clocks (timers) – fencing stadium divided into two parts.

Method of doing the test: From standby position the experimenter stands on the starting line specified on the stadium so that the performance of every 2 experimenters together for the element of competition in performance when hearing the signal occupies the clock, the player progresses at full speed forward to reach the finish line and when touching the back foot the finish line closes the clock.

Performance conditions:

- The experimenter stands of the wall and in front of fencing stadium.
- The test is conducted between two experimenters and every player on his or her section.
- Continue standby during testing.
- Perform backwards correctly.
- Backwards in a straight line.
- Turn off the clock after the back foot touches the line.

Recording Way: The time is calculated for the nearest 1/100 sec., gives three tries and depended on the best one.

Pre-Tests:

The pre-tests made in Al-Jaish sports club during Friday 8/3/2019 to Saturday 9/3/2019.

The Main Experience

- Researchers have prepared special real-time exercises in pre tests.
- The exercises were given three training units per week on days (Saturday, Monday and Wednesday).
- The experience started on Saturday, March 10, 2019 and ended on Thursday, May 9, 2019.
- The period of the exercises was within the period of the special numbers and by 6 weeks and thus 24 exercise units were applied.

Post-Tests:

The researcher conducted the post-tests at al-Jaish Sports Club Stadium on Saturday, 11/5/2011 until Sunday, 12/5/2019 (after the completion of the proposed exercises and the same steps and the conditions under which the tests were conducted)

Statistical Devices

The researchers used the Statistical Package for the Social Sciences (SPSS).

Results and Discussion

presentation, analysis and discussion of the results of physical tests for the first and second experimental groups:

Table (3) shows the total difference and the total difference box and the average difference of computational circles and the standard error of the difference of computational circles between the pre and post-tests and the calculated and tabulated (t) value of the first and second experimental groups for physical tests.

Test name	Statistics Groups					Calculated T- value	Sig. Differences
Wide jump stability (Cm.)	1st experimental	207	3471.5	34.51	10.67	0.001	Sig.
	2nd experimental	160	2577.3	26.7	9.27	0.000	Sig. Sig.
High deep jump (cm.)	1st experimental	10	62.84	1.67	0.77	0.002	Sig.
	2nd experimental	21	53.5	3.5	2.78	0.003	Sig.

- At FD (5-1) = 4 with Sig. level 0.05.

Presentation and analysis of the results of the physical tests of the first and second experimental groups of the post-test:

Table (4) shows the Arithmetic Mean (X) and Standard Deviation (SD) of the physical tests (Wide jump stability and High deep jump) of the two experimental groups and the calculated T–value of the post-test

Statistics Test	The first experimental group		The second experimental group		Calculated T-value	Sig. differences
	-	+	-	+		
Wide jump stability (Cm.)	208	25.7	23.5	6.04	0.004	Sig.
High deep jump (cm.)	38.5	5.75	36	4.46	0.001	Sig.

- At FD (10-2) = 8 with Sig. level 0.05.

Discussion the Results of the Physical Tests:

By observing the table (3) we find that all the tests are moral between the pre and post-test of the first and second experimental group and attribute this to the effect of using a device sensitive force of the feet and adjust the amounts of force exerted for one step.

The implementation of these exercises in the period of special preparation has also contributed to the development of some physical abilities to the importance of skill exercise and the development of muscle strength in the period of special physical preparation, as the strength must be made in different forms and amounts and to correspond accurately with the performance of skills as the development of that strength depends on secret changes, the rhythm of nerve signals as the muscular activity is characterized by a high degree of compatibility between the time and size of the nerve signals, and indicates the importance of this special force through performance exercises which is the main means of its development (Mamdouh Muhammad Al-Shanawi, 2003: 112)

Khairya Ibrahim Al-Sukkari and Muhammad Jabir state that when performing exercises for certain muscle groups, it results in adjustments in specific muscle areas, for example, the effectiveness of endurance can be increased only by endurance exercises, i.e. when performing specific exercises that produce specific adaptations, if you want to jump up or forward, the content of the exercise must base on jumping exercises and if you want speed you have to focus on speed exercise and so on.... It is imperative to develop exercise programs according to the type of activity practiced (Khairya Ibrahim Al-Sukkari and Muhammad Jabir, 2005: 25).

Present, analyze and discuss the results of the skill tests for the first and second experimental groups:

Presentation and analyzing of the results of the skill tests for the first and the second experimental groups

Table (5) shows the total difference, the total difference square, the average difference of the computational circles, the standard error of the computational circles difference between the pre and post-tests and the calculated (t) value of the first and second experimental groups of the skill tests.

Test name	Statistics Groups					Calculated T-value	Sig. Differences
Speed of feet movement starting up (sec.)	1st experimental	2.86	0.6278	0.48	0.14	0.001	Sig.
	2nd experimental	1.28	0.3064	0.21	0.101	0.002	Sig. Sig.
Speed of feet movement backing (sec.)	1st experimental	3.1	0.7764	0.52	0.16	0.003	Sig.
	2nd experimental	2.78	1.547	0.46	0.23	0.002	Sig.

- At FD (6-1) =5 with Sig. level 0.05.

Presentation and analyzing of the results of the skill tests for the first and the second experimental groups of the post-test

Table (6) Shows the Arithmetic Mean (X) and Standard Deviation (SD) of the skillful tests (Test of the speed movement of feet- headway, Test of the speed movement of the feet- fall back) of the two experimental groups and the calculated T–value of the post-test

Statistics Test	The first experimental group		The second experimental group		Calculated T-value	Sig. differences
	-	+	-	+		
Test of the speed movement of feet, headway (Sec.)	3.92	0.23	3.71	0.53	0.001	Sig.
Test of the speed movement of the feet, fall back (Sec.)	4.37	0.076	4.34	0.49	0.003	Sig.

- At FD (10-2) = 8 with Sig. level 0.05.

The plyometric exercises contributed the improving the movements of feet, Talha Hussam al-Din indicates that the exercises of the plyometric used have an effect on the central nervous system by reducing decelerating processes and recruiting muscle fibers to do the muscle work characterized by the strength of the contraction and its speed (Talha Hussam al-Din, 1999: 95).

Conclusions

The researchers found out the following conclusions:

1. The suggested exercises have positively effected in some physical and skillful abilities of Fencing Young experimenters.

2. Using modern technical instruments to identify the number of the correct steps in each second as well as using it as an instrument to observe the performance speed.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols

were approved under the Middle Technical University, Iraq and all experiments were carried out in accordance with approved guidelines.

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