International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 02, 2020
ISSN: 1475-7192

Transfer The Effect Of Muscle Training (Fixed-Moving) From The Healthy Part To Rehabilitate The Femoral Muscle

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Abstract

The problem lies in the injury of the rectus femoral muscle partial rupture in some men and women non-athletes, which led the researcher to pay attention to this situation and use in the rehabilitation side associated with skeletal muscles and the musculoskeletal system and thinking in a manner that accelerates and prevents the occurrence of muscular atrophy resulting from not moving for a long time. The objectives of the research were to prepare fixed exercise for the injured part and fixed and mobile exercise for the proper part . And to identify the impact of muscle exercise stomach and the transfer of training to rehabilitate the injured part of the rectus femoral muscle in term of the range of motor and muscle strength. While the hypotheses of the research showed the presence of statistically significant differences in the transfer of the impact of fixed and mobile muscular training to qualify the rectus femoral muscle in terms of muscle strength and motor range between the pre and post tests of the sample and in favor of the post test. The researcher used the experimental method and the main experiment sample consisted of 16 patients with partial rupture of the rectus femurs muscle, and the results were treated statistically to show the differences between the pre-and post tests after the use of the prepared exercises. The effect of training, which led to the improvement of strength and motor range as the researcher recommended the use of fixed and mobile exercises and transfer the impact of training for other injuries.

Keywords : Transfer the effect, muscle training and experimental method

1. Introduction

The research problem lies in the injury of the femoral straight muscle by partial tear in some women and men who are not athletes, which led us to pay attention to this condition and use it in the rehabilitation side associated with the skeletal muscles and the muscular system and thinking and in a way that accelerates and prevents the occurrence of the muscular atrophy resulting from not moving it for a long time. There are qualifying methods derived from training that are more effective in treating injury, aimed at developing the muscle strength of the affected muscles and the motor range of the joint, When injured, most specialists refer to the qualification side to the effectiveness of fixed and moving training in the rehabilitation of the affected part, which must be programmed according to scientific training principles according to the player's ability and adequacy of the components of the external load in terms of severity, size and comfort when performing some work.

In this research, the qualification of the straight femoral muscle with partial tear was studied by transferring the effect of fixed and moving training in further improving the muscle strength and kinetic range of the joint in order to know the result of using the training in a fixed and moving manner of the healthy and fixed part of the affected part.

2. Research aims

2.1. Prepare fixed exercises for the affected part and fixed and moving exercises for the healthy part

2.2. Identify the effect of stomach muscular exercises after the transfer of training to qualify the injured part of the femoral straight muscle as a function of the range of motion in the research sample

2.3. Identify the effect of stomach muscular exercises and the effect of transfer training to rehabilitate the affected part of the femoral straight muscle in terms of muscle strength.

3. Research Assumes

3.1. There are statistically significant differences in transmitting the effect of fixed and moving muscle training to qualify the straight femoral

muscle in terms of muscle strength between the pre and post tests of the research sample and in favor of the post test

3.2. There are statistically significant differences in transferring the effect of fixed and moving muscle training to qualify the straight femoral muscle in terms of the kinetic range between the pre and post tests of the research sample and in favor of the post test

4. Research fields

4.1. The human field: The research sample included a group of young people with tear straight muscle fracture, who numbered 16 with "ages 25-35 years"

4.2. Temporal field: From 3/2/2019 to 28/3/2019

4.3. Location field: Physical Therapy Department at Al-Sadr General Hospital - Baghdad

5. Research methodology and field procedures

5.1. Research Methodology:

I used the experimental approach, which is a "approved" and "controlled" variable for the conditions specified for a particular event, and note and explain the resulting changes in this same incident [1].

5.2. The research sample

The sample of the study included a group of young people with moderate muscle tear in the left femoral straight muscle with ages ranging from (25-35) reviewers in the physiotherapy department at Al-Sadr General Hospital in Baghdad and they were 19 who were chosen in the intentional way, and 3 patients were excluded because they participated in the experiment Exploratory study, and thus the number of individuals in the sample participating in the main experiment became 16 injured. The sample is homogeneous in terms of the duration of the injury, which is three weeks, and the location and level of the injury

5.3. Search procedures

5.3.1. Means, tools and devices used in the research:

The means and tools were used to collect data to achieve the goals of research and problem solving, and the following was used

1. Arab and foreign sources and personal interviews
2. Tests and measurements
3. A Kanometer device for measuring the range of motion
4. Dynamometer for measuring muscle strength (US-made)
5. Rubber bands and dumbbells with various masses (2.5, 3, 4, 5) kg

5.3.2. Tests and measurements used in the research

5.3.2. 1. Measure the strength of the muscles Working to flex and stretch the muscles.

Primary mode: standing back against the wall and fixing the body in three areas, the shoulders - the trunk and the foot that do not work in the measurement In addition to using the victim's hands to arrest the wall and the circular belt, the dynamometer is worn by the injured so that he is at the near end of the knee joint and the thigh is completely parallel to the ground. When measuring the strength of the muscles operating on the thigh, the device is suspended at the top of the thigh, and vice versa[2].

5.3.2.2. Measuring the range of motion in the thigh joint (flexion and extension).

The person standing with his back against the wall secures the chest and upper part of the other leg's thigh to the wall, The person raises his leg high "fixed or elongated from the knee joint according to the desired size without raising after the other leg from the ground or bending the knee joint, As for measuring the tide, it is done in the same way, but the person is facing the wall, and the person moves his leg high behind without bending in the knee joint, as well as not standing on the instep for the second leg[2].

6. Scientific foundations of the tests

6.1. Validate the test

Honesty is a condition for determining the validity of the test, and it is the most important test transaction for any standard or test, Honesty means "the degree to which the test measures what we want to measure",

And by presenting it to the experts and specialists who have unanimously agreed on the truthfulness of the tests in measuring what they were put in place, also the self-truthfulness which is the square root of the stability was used to find the truthfulness of the measurements used**.**

6.2. Stability of the test

The stability of the test is intended to be the degree of accuracy or perfection with which the test is measured [3], so the test and the test were used on the same sample with an interval of 7 days.

6.3. Objectivity of tests

Objectivity means that subjective judgments are not affected by the experimenter or that objectivity is available without bias and self-intervention by the arbitrator, Whereas the approved tests are clear, understandable, and far from self-evaluation and diligence for the evaluator, As the assignment is done using the units of time, second, degree, and repetition, the approved tests are highly objective, meaning that they (the degree of agreement between the degree estimators) [4].

Table(1)

	The test	Stability	Truthfulness
1	**Test the muscles working to flex the thigh muscles(right)**	**0.833**	**0.912**
2	**Test the muscles working to extend the thigh muscles(right)**	**0.929**	**0.963**
3	**Muscle test to flex the affected thigh muscles(left)**	**0.988**	**0.993**
4	**Muscle test to stretch the affected thigh**	**0.825**	**0.908**

	muscles(left)		
5	**Motor range of right thigh joint**	**0.86**	**0.88**
6	**Motor range of left thigh joint** **(The injured)**	**0.95**	**0.97**

7. Exploratory experiences

Two first experimental experiments were conducted on Sunday 27/1/2019 on (3) cases from the research sample, and they were excluded from the main experiment on fixed and moving rehabilitative exercises in the Physiotherapy Department of the Al-Sadr General Hospital in Baghdad , As for the second experiment, it was conducted on Monday 28/1/2019 on the tests under discussion, This is to identify the appropriateness of the exercises for the sample, as well as the appropriateness of the tests, in addition to training the auxiliary team on the details of the main experiment, controlling all changes and identifying errors that occur during the implementation of the rehabilitative exercises and overcoming them and identifying difficulties

7.1. Experiment procedures

7.1.1. Tribal tests

The researcher conducted the post-tribal tests in the Physical Therapy Department of Al-Sadr General Hospital on Wednesday and Thursday, 30-31 / 1/2019 at ten in the morning, and the results that were reached in order to compare them with the measurements obtained from the post-tests after they were statistically treated were recorded.

7.1.2. The main experience

I worked on implementing the main experiment on Sunday, 3/2/2019 at exactly ten o'clock in the morning "in the physiotherapy department at Al-Sadr General Hospital on the eyes of the research for the purpose of carrying out vocabulary using fixed exercises for the injured part and fixed moving exercises for the healthy part, It was at the rate of 3 training

sessions per week and lasted until 3/28/3029, bringing the number of rehabilitative units to 24. The fixed and Moving rehabilitation exercises were prepared after examining the sources and searching for the topic, according to which the exercises were conducted

7.1.3. Post-tests

After the period of applying the rehabilitative exercises, the post-test was conducted on Monday and Tuesday, corresponding to 1-2 / 4/2019, ten o'clock in the morning. We were keen to provide the same conditions in which the tribal tests were conducted from place, time and tools.

8. Statistical means

The spss statistic was used to find the mean, standard deviation, and calculated T value

8.1. View and analyze variables under consideration

Table (2): Shows the arithmetic methods, standard deviations, the calculated value (T) of muscle strength and kinetic range in the pre and post tests.

Table (2)

Test	Pre-test		Post-test		T	Significance level
	Result	Error	Result	Error		
Test the muscles working to flex the thigh les(right)	**64.56**	**0.73**	**75.94**	**1.12**	**37.786**	**0.05**
Test the muscles working to extend the thigh muscles(right)	**60.38**	**2.39**	**68.81**	**1.33**	**14.267**	**0.05**
Muscle test to flex the affected thigh	**34.86**	**1.15**	**40.75**	**1.77**	**10.457**	**0.05**

muscles(left)						
Muscle test to stretch the affected thigh muscles(left)	**28.81**	**1.38**	**34.38**	**2.33**	**8.145**	**0.05**
Motor range of right thigh joint	**36.75**	**2.44**	**33.38**	**1.02**	**5.084**	**0.05**
Motor range of left thigh joint(The injured)	**62.84**	**1.14**	**51.59**	**1.75**	**23.085**	**0.05**

9. Discuss the results

By looking at the results of the statistical treatments shown in Table (2), there were statistical differences that showed that there were statistical differences between the tribal and numerical tests in the dynamic range and muscle strength of the affected and healthy part. And the reason for these differences resulting from the effectiveness of the rehabilitative muscle exercises fixed to the affected part and the moving part of the healthy part prepared by us, which led to the transfer of the effect of training from the healthy part to the injured part, In other words, the rehabilitative muscle exercises led to an increase in the motility range and muscle strength of the affected part. Likewise, weights and weights led to the development of the healthy part and the effect of the training was transferred to the affected part, which led to its development despite the fact that the injured part was used for him to rehabilitate the fixed muscle exercises. The effect of fixed and Animation rehabilitative muscle exercises on the increase in the range of movement and muscle strength is demonstrated through the use of stretching, repetitions, appropriate rest times and progression in pregnancy on the affected and healthy part and shown on sound scientific foundations. What happens in the central fixed muscle work causes the muscle to increase the muscle work, and the amount of muscle tension varies with different angles. The use of weightlifting, tools, and rubber bands in the rehabilitative muscular

stomach exercises had a major impact in developing strength, as the exercises relied on increasing the speed of the muscle contraction because the goal of preparing the muscle for contraction is to obtain muscle strength [5].
The kinetic range is the outer limits of the rotation of parts of the body. The kinetic range is measured in degrees and equals the difference between the maximum measurement and the lowest measurement of the angle between the two bones that make up the joint. The kinetic range is directly affected by the flexibility of the muscles, ligaments, and tendons surrounding the joint and their ability to stretch[6].

10. Conclusions and recommendations

10.1. Conclusions

1- The prepared program, which includes steady exercises for the affected part, and stable and moving exercises for the healthy part have resulted in good results from the healthy and affected parts.
2. The effect of the training was transferred from the healthy part to the affected part without any stress on the affected muscle or on the injured person himself

10.2. Recommendations

1. The use of stationary exercises for the affected part in the event of an injury in which the person is unable to move the affected organ
2. The use of stationary and moving exercises for the part of the part of the affected part in order to stimulate the affected part and transfer the effect of training from the healthy part to the affected part
3. The use of static and moving exercises in other programs to treat other injuries commensurate with the type of injury
4. The use of fixed and moving rehabilitative muscle exercises prepared by us in the treatment of back and front thigh muscle injuries in physical therapy centers, whether the injured is athletic or non-athletic.

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