

The Effect of Rehabilitation Exercises Preceded by Reflexology Technique in the Rehabilitation of Patients with Frozen Shoulder: Experimental Research

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Abstract

Shoulder immobilization is one of the injuries that lead to disability and loss of movement in the joint within a short time, which called the researchers to find appropriate therapeutic means to rehabilitate this injury. They prepared a rehabilitation program accompanying the reflexology technique to rehabilitate the injury of the immobilized shoulder of the small degree and improve the range of movement and muscle strength working on the shoulder joint. The sample was selected from the male patients aged (40-50) years. The muscle strength test was used using the force sensor, the shoulder range test from the flexion and extension position and the visual analog test to measure the level of pain. The study concluded that the pre-rehabilitation exercises using the reflexology technique contributed to alleviating the pain. The degree of pain experienced by the sufferers and this reduction helped in improving the muscle strength, kinetic ranges, and muscle flexibility of the shoulder joint in the flexion-up and back-extension modes.

Introducing the search

Introduction and importance of research

The contemporary lifestyle has led to the imposition of a behavior or lifestyle that has resulted in injuries. Scientists have called them diseases of the modern era. However, health medical sciences did not stand idly by towards this, but rather created the best therapeutic and rehabilitative means to stay away as much as possible from surgical interference. One of the best of these methods is rehabilitation exercises because of the positive effects of rehabilitation in the treatment and rehabilitation of many injuries because it aims to remove cases of dysfunction of the affected part and reach the maximum level of its natural state and leads to restoring the ability to feel movement for the injured element.

Shoulder immobilization is one of the injuries that lead to disability and loss of movement in the joint within a short time. And that the frozen joint increases with the lack of joint activity, so the therapeutic exercises given during the rehabilitation period of

frozen shoulder must have a motor range more than the area allowed by pain. Therapeutic exercises improve the strength of weak muscles and increase the range of motion of the joint.

Modern techniques have also been used in physiotherapy on a large scale, prepared according to scientific bases, including the technique of reflexology, which helps in treating pain, especially shoulder freezing, because of this technique of great role in relieving pain and improving the effectiveness of muscle work and restoring shoulder flexibility. From here came the idea of the research to provide rehabilitation exercises accompanying the technique of reflexology for the injured with frozen shoulder, the desire of the two researchers to provide health and scientific service in the field of sports rehabilitation.

Research problem

The freezing shoulder injury is one of the most common injuries that occur to middle-aged people, which called the researchers to make field visits to some physiotherapy centers and the Sports Medicine Center and found that the rehabilitation of this injury depends on a set of exercises that are repeated in each treatment session, so the researchers decided to prepare rehabilitation exercises accompanying the technique Reflexology is to rehabilitate the shoulder injury of a simple degree and improve the range of motion and the muscle strength working on the shoulder joint, where they are exercises that are easy to implement with the aim of adapting the parts of the upper limb and helping to perform the necessary movements to know the extent of their effect in relieving such injury on the shoulders of the sufferer who suffers from freezing shoulder to aim To adapt the parts of the upper extremity and help in the performance of daily normal movements.

Research aims

- Preparing rehabilitation exercises preceded by the reflexology technique in the rehabilitation of middle-aged patients with frozen shoulder.
- Knowing the effect of rehabilitation exercises in improving range of motion and muscular strength for middle-aged patients with frozen shoulder.

Research hypotheses

There are statistically significant hypotheses between the pre and posttests in the research variables for the research sample.

Research areas

- ✓ Human field: a sample of men with frozen shoulder, aged (40-50) years.
- ✓ Time range: for the period from 10/2/2021 to 1/5/2021
- ✓ Spatial domain: The International Center for Physiotherapy in Baghdad

Research methodology and field procedures

Research Methodology

Choosing the appropriate approach is one of the most important steps that result in the success of the research. The selection of the curriculum depends on the nature of the problem to be studied and the goal to be achieved, as the nature of the problem is what determines the research method in order to reach the truth and reveal it to reach a specific result (1: 221).

The research sample

The research sample was chosen in a deliberate way from males with freezing shoulder whose ages ranged from (40-50) years and who visited the International Center for Physiotherapy and their number was 5 and after accurate diagnosis of the level of injury by referring to the priorities of each injured present in the management of the center. As well as by a specialist doctor through the x-ray images (X-Ray) for each injured.

Tools and devices used in the search

- ✓ Sources and references.
- ✓ Observation and experimentation.
- ✓ Personal interviews.
- ✓ Tests and measurements.
- ✓ Survey experiments.
- ✓ Reflexology massage device (reflexology) of Chinese origin.
- ✓ A force sensor to measure muscle strength.
- ✓ A goniometer to measure the range of motion of the joint.

The tests used in the research

Muscular strength test using force sensor

Purpose of the test: To measure the muscle strength of the shoulder joint muscles from the position of the arm flexion upwards - arm extension back.

Shoulder range of motion tests from flexion and back extension

Purpose of the test: To determine the range of motion from the flexion and extension position of the shoulder.

Pain level measurement using visual analogy

Purpose of the test: To measure the level of pain from the position of flexion up and backward extension.

Exploratory experience

An exploratory experiment was conducted on February 13, 2021 on a sample of patients with frozen shoulder, whose number were (2) who were not excluded from the main experiment, and the purpose of it was:

Safety of tools and accuracy of devices

Support team readiness.

Getting to know the prepared curriculum and how to perform it

Tribal exams

The two researchers conducted the pre-exams on February 15, 2021 at 10 am in the physical therapy hall at the International Center for Physical Therapy in Baghdad.

Main experience

- After reviewing many foreign publications and the opinion of a group of experts to develop muscular strength and improve kinetic range, the application of the prepared curriculum began as follows:
- Applying the reflexology points technique (reflexology) for a period of (10-12) minutes in each unit and before performing the qualifying exercises.
- The use of rehabilitation exercises after using the reflexology technique for a period of (20-30) minutes in each rehabilitation unit.
- A period of (6) weeks is used, with three qualifying units per week.
- The qualifying program contains 18 qualifying units.
- The rehabilitation program contains simple repetitions and gradation in the number of repetitions and rest times.

Dimensional tests

The post tests were conducted on 3/4/2021 at 10 am in the physiotherapy hall of the International Center and under the same conditions as the pretests.

Statistical means

The two researchers used the statistical package (spss).

Presentation, analysis and discussion of results

Display the results of the pre and post tests for the level of pain for the research sample

Table (1) shows the arithmetic means, standard deviations, and the calculated (t) value for the pre and posttests of pain level for the research sample

Statistical	error	Calculated	post test	pretest	No
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significance	level	t value	p	s	p	s	
D	0.001	7.66	3.81	0.32	7.4	Pain degree of flexion upwards	-1
D	0.083	5.33	3.005	1.04	6.91	Back tidal pain degree	-2

Below a significance level of 0.05 and a degree of freedom of 4

Presentation of the results of the pre and post tests for the variables of strength and range of motion of the shoulder joint for the research sample

Table (2) shows the arithmetic means, standard deviations, and the calculated (t) value for the pre and posttests of the research variables for the research sample.

Statistical significance	error level	Calculated t value	dimensional tests		tribal exams		the test	No
			p	s	p	s		
D	0.073	0.008	2.51	9.21	1.24	5.81	Shoulder flexion test	-1
D	0.023	0.001	2.31	9,055	1.022	4.76	Shoulder muscle strength test from the treading position	-2
D	0.018	3.110	12.91	98.82	12.77	76.34	Kinetic range in the flexed position	-3
D	0.009	4.61	3.28	39.17	3.75	24.52	Kinetic range from tide mode	-4

Below the significance level of 0.05 and the degree of freedom of 4

Discuss the results

By presenting the results of the tribal tests of the variables of strength, range and pain for the research sample, the calculated (t) value appeared as a function of the muscular strength tests (flexion and extension), kinetic range (flexion and extension) and pain level (flexion and extension), the researchers attribute the moral differences to the qualifying exercises that helped in The emergence of the positive aspects of the tests and that the reflexology technique helped to bring about a change in strength and range of motion through vital energy pathways that are in the form of reflexology points that relieve stress and help blood and oxygen flow well in the body and stimulate the body to secrete endorphins that eliminate aches and activate energy Vitality in the body and thus helps to perform rehabilitation exercises without pain. This is confirmed (Gillian Sutar 2002) "stimulating the work of the reflex points to release endorphins (a stimulant chemical that eliminates pain)" (2: 9).

And freezing is the inability of the joint to perform its movement normally within the range of motion, this was confirmed by (AmmarQai', 1999). (3:25).The rehabilitative approach followed, which included exercises and reflexology technique, had an effective

effect in relieving the pain and thus increasing the range of motion of the shoulder joint as a result of exercising and applying them correctly.

Where the exercises worked to reduce the kinetic limitation by increasing the range of motion of the shoulder joint, and this improvement is not attributed to the muscle tissue only, but to the rest of the components of the joint, and this was confirmed by (Brad.A, 1998) “that each type of tissue plays a certain role in the movement of The joint” (4:9) The researchers believe that the use of prepared rehabilitative exercises and the technique of reflexology worked to reduce the degree of pain suffered by those with freezing shoulder, which helped to revitalize the area of injury and then activate the blood circulation in the place of injury, which leads to similar healing and a decrease in the degree of pain. And that this decrease in pain led to an improvement in muscle work and reduced the feeling of pain during movement performance, and this gave an indication of recovery and confirmed (Qassem Hassan Hussein, 1990) “Pain is what prevents the muscles from working effectively and in coordination and it can be a sign of potential damage” (5:106). The rehabilitation exercises preceded by the reflexology technique helped to transfer the oxygen-laden blood in larger quantities and faster into the muscles, which led to a marked improvement in muscular strength and range of motion, and this was confirmed by (Abu Al-Ali and Ahmed Nasr Radwan, 1999) “The rubber exercises, flexibility exercises, and vibratory exercises aim to reduce the accumulation of lactic acid and thus the ability of the muscle to work better” (6:189).

Conclusion

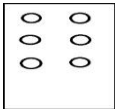
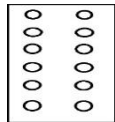
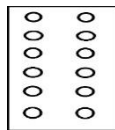
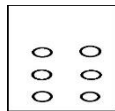
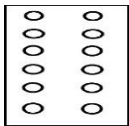
Through the results that appeared in the research, the researchers concluded that the rehabilitation exercises preceded by the reflexology technique contributed to alleviating the degree of pain experienced by the injured and thus this decrease helped to improve the muscle strength of the muscles working on the shoulder joint and contributed to improving the kinetic ranges and muscular flexibility of the shoulder joint in the flexion up and backward poses . In light of this, the two researchers recommend the generalization of rehabilitation programs prepared in physical therapy centers to benefit the most from them, and also recommend conducting experimental studies on other ages. The researchers also recommend the use of this modern technology in other injuries that have not been addressed.

References

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Reflexology Working Model

Electric distribution shape on the hand	How does the electric mode work?	No
	Fast, intermittent pulses (middle and upper hand) (6 sec, 1 sec)	20
	Continuous alternating hand pulses (on the whole hand)	21
	Alternating intermittent hand pulses (on the whole hand) (4 sec work, 1 sec rest) (1 sec right, 1 sec left)	22
	Vibrational pulses (bottom to center) 6 sec intermittent, 3 sec continuous	23
	Intermittent ascending vibration pulses (whole hand) (5 pulses * 5 times) (5 seconds work, 1 rest)	24

Rehabilitation training model

- 1- (Standing, walking) raising and lowering the shoulders (10 times).

- 2- (Standing) raising the arms up behind the head, bringing the arms together in a cross-legged position so that the palms meet each other, pulling the arms up and back a little (10 times).
- 3- (Standing) Raise the arms in front of the chest with the fingers intertwined and contracted whenever possible (5 sec), then floor (5 sec) 15 times.
- 4- (Standing) open the arms to the side while carrying a weight of 1 kg in both arms and descending (10 times).
- 5- (standing, open - transverse flexion with weight bearing) open the arms to the side and then up as much as possible and lower them (10 times).
- 6- (from a standing position in front of a wall, and the rope in front of the injured) the injured pull the rubber rope as much as possible and back the rubber (10 times).