

The Effect Of Rehabilitative Exercises In The Case Of Anterior Dislocation Of The Uncomplicated Shoulder Joint For Men Aged 40-50 Years

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1. INTRODUCTION AND IMPORTANCE OF RESEARCH

The shoulder joint is a joint unique from the rest of the joints in the body as it is characterized by a large range of movement and that is through the glenohumeral cavity with the head of the bone (Glenohumeral) and the flexibility of soft tissues (Soft Tissues Surfaces) and free-movement surfaces (Freely Sliding Surfaces). The socket in which the humeral head rests is by the glenoid cavity, as the nature of movement in the shoulder joint is three-dimensional (three dimensions mobility), that is, it is of the ball and socket type. The acromion bone is a protrusion over the glenoid in the form of a fibrous bridge with the coracoid twist to keep the humerus bone stable and not outward from the tip of the Coracoid [1].

The shoulder joint is highly susceptible to various injuries because of its great range of motion, with weak peripheral ligaments and shallow glenoid cavity. Therefore, the basis of its stability depends on the integrity and strength of the surrounding muscles. As a result, the injuries will be at a level depending on the tension of the impactor or the tissue rupture, or some of which is complex characterized by fractures Or the dislocation of tissues or lymph cartilage in the vicinity of the glenoid jaw. Including what happens dislocation without significant damage with the presence of stretched tissues and tendons, which are considered uncomplicated. the forms of dislocation are multiple and with different levels of injuries. The rehabilitation programs are many and varied in the field of sports medicine for the rehabilitation and treatment of injured athletes. It is complicated that there is a difference in viewpoints in terms of the period of the rehabilitation program. The methods of daily therapeutic rehabilitation, the treatment approach followed, the accurate diagnostic and medical rehabilitation in determining the nature of the injury and that any part of the muscle or tendon may have occurred in which the damage and any muscle of the shoulder. Muscles that have actually being injured in order to focus the therapeutic exercises in line with the development of that muscle or tendon in order to elevate the muscle and then the joint to a normal state and progress to touch correct health of the injured player. Preparing a rehabilitation program based on physical exercises for the purpose of rehabilitating the shoulder joint in a sample of injured players, hence the importance of research in designing rehabilitative exercises in the case of anterior dislocation of the uncomplicated shoulder joint for men aged 40-50 years.

2. SEARCH PROCEDURES

1-2 Research Methodology

The researchers used the experimental method for its relevance and the nature of the research problem.

2.2 Research community and sample

The research community was composed of individuals who had an uncomplicated anterior dislocation injury at the age of (40-50) years and reached (five) were selected by the deliberate method and their percentage (68%) from the research community. Their desire to volunteer to conduct the implementation of the program according to the medical instructions, as the treatment program implemented on the research sample successively and the same conditions were taken into account for all members of the research sample.

2-3 homogeneity of the research group

After the two researchers conducted the pre-tests on the research sample. They carried out a process of homogeneity between a group in the variables of age, height and weight "so that the researchers can refer the difference to the experimental factor, the groups must be completely equal in all their conditions except for the experimental variable that affects the experimental groups." (Obaidat, 348,1982), and as shown in Table (1).

Table (1) The table shows the coefficient of homogeneity between the sample members of the variables of height, weight, and age.

variables		Measuring Unit	Experimental group		T- Test	Signification
			A	Std		
Physical specifications	Length	Cm	180	6.22	66,0	Significant
	weight	Kg	50,85	8.85	170,0	Significant
	age	year	30,43	47,1	145,0	Significant

* The tabular t value is (2.074) at error ratio \leq (0.05) and degree of freedom (4).

The above table shows the calculated value (t), which amounted to the variable of height (66.0), for weight (170.0), and for age (145.0). Thus, the calculated value of (t) is smaller than the tabular value of (2.074) at a degree of freedom (4). The error rate is \leq (0.05), meaning the difference is not significant, meaning there are no differences between the group, and this indicates the existence of homogeneity in the variables of height, weight and age.

2-4 Methods for gathering information:

The researchers used measurement, interviews, and tests as methods of gathering information.

2-4-1 Devices and tools used in the research:

A device for measuring weight and height Sunny Origin

As for the tools used with the rehabilitating exercises, they are:

Small size sponge balls - stick – weights

2-5 Defining the variables:

Through reviewing some scientific sources, references an interview with some doctors practicing in the field of fractures, a number of experts in the field of measurement and orthodontics, as well as by reading some studies and similar researches, the most important

physical, motor and physiological characteristics were determined. After that, the chosen variables presented to a number of experts in the field of therapeutic Rehabilitation and training physiology. Determining which variables may affect the treatment and know the extent of the impact of an uncomplicated shoulder joint injury on these physical and motor characteristics, including (the range of motion of the shoulder joint, the front shoulder muscles, the posterior shoulder muscles, the adductor and abdominal muscles) [2].

2-6 field research procedures

Through official overtures to each of the Baghdad Health Department Al-Rusafa (Al-Wasiti Teaching Hospital), procedures were determined in the Physiotherapy Center at Al-Wasiti Hospital, due to the availability of the appropriate field with direct supervision of the treatment, physical and rehabilitation staff. Field procedures: -

1- The first stage

The radiographic examination test:

a radiological examination was performed for the research sample to confirm the health condition of the hamster, and that the consequences of this medical procedure have its effect on the muscle groups and the peripheral ligaments of the shoulder joint after determining the patient's movement usually within a certain range until the shoulder joint is fully recovered.

2- As for the second stage

After the patient recovered and became more secure in terms of movement and area of the shoulder joint and the patient's health stability. The rehabilitation effort continued on a daily gradual basis that corresponds to the patient's ability and endurance to increase the rehabilitation in terms of the motion range of the shoulder joint is potential, and the ability of the surrounding muscles to bear the effort exerted on them and raise their capacity and functional rehabilitation. This stage was characterized by positive and helpful exercises on the part of the patient. The use of some assistive means to increase the ability to withstand the rehabilitation effort and self-reliance until the patient reached the stage of approaching the normal within the age stage where the patient needed a period of 12 weeks.

2-7 main experience

2-7-1 Pre-tests

The two researchers conducted pre-tests on the research sample and for a day, the researchers presented them to the doctor (Imad Hassan), a specialist in orthopaedics and fractures, to make surer of the accuracy of the diagnosis, who in turn confirmed their uncomplicated injury that can be treated using rehabilitative means and Appendix No. (2) Shows a report to the doctor. On the date of 6/26/2019, the physical and kinetic tests were performed on the sample affected by the uncomplicated shoulder, which consisted of (five) injured. Taking into account the rest periods between one test and the last, noting that the tests were and strength, flexibility (range of motion) and strength prolonged are among the criteria that depend on in healers to know the response of the injured to the rehabilitation curriculum, and thus research tests included:

1- The range of motion of the shoulder joint.

2- A test to measure the maximum strength of the arm abdominal muscles.

3- A test to measure the grip strength of the affected arm

A- Measurement of the motor range of the shoulder joint (adduction test, dimensional test, inward rotation test, outward rotation test)

B- A test to measure the maximum strength of the arm distal muscles of the shoulder, force with a dynamometer

The average

The test to measure the maximum strength of the abdominal muscles of the arm with a minimometer

❖ Dimensions: Abduction and the degree of flexibility is (0-180 degrees) and the dimensions are starting from the position of the limb drooping next to the body (resting position). Movement is free and easy for a range of (90 degrees) from the torso, that is, when the humerus becomes in 0 horizontal position and forms an angle with the body at the shoulder joint and engages Some muscles in this movement, including:

1. The deltoid muscle (middle fiber).
2. The supraspinatus muscle.
3. The biceps humeral muscle (long head) [3].

Adduction: It is the movement of any part of the body close to the longitudinal axis of the body, such as approximating the arm from the longitudinal axis of the body, and the degree of flexibility is (0-90) degrees.

❖ Two rotational movements:

Circumduction: is the movement of the member in all directions in the form of a circle, such as the complete rotation movement of the shoulder joint, and only such movement is performed by a joint of the type (ball and glenoid cavity) and the degree of flexibility is (0 - 90) degrees to rotate the outside and the inside [4].

❖ The muscle strength test of the working muscle station on the shoulder joint to record the number of fines that the patient withdraws and is installed on the dynamometer device. A day to present the rehabilitative exercises by the researchers to understand the exercises by the patients correctly and to apply them accurately as they are non-athletic patients, as well as the method of performing the test by the researchers for the dynamometer on the patients

2-7-2 Implementation of the program:

The treatment program was implemented after fixation of the shoulder by suspending it for a week on the research sample consisting of (five) injured. As the program contained a period of (12) weeks, four units per week. The units included a set of therapeutic exercises aimed at treating and improving the shoulder joint by strengthening Muscles and ligaments of the shoulder joint. The unit and intensity of exercises, size and type of rest used (negative and positive) between repetitions and between one exercise and another for the period from 6/27/2019 to 12/27/2019 at a time of (20-40) minutes for each session in the physiotherapy laboratory of my hospital Al Wasiti Education in Baghdad. The tests were conducted after the end of the shoulder immobilization opening in the first week before the program was applied on 7/18/2019.

2-8 statistical means: -

The two researchers used the statistical bag for social sciences (spss) that helped them to achieve the study hypotheses.

3. PRESENTING AND DISCUSSING THE RESULTS

3-1 discussing the results

Between the arithmetic mean and standard deviations of the variables under investigation in the three tests (pre-, post-) of the research sample

Table (2)					
The measuring of the variables					
Variables	Pre test		Post test		Measuring Unit
	Std	A	Std	A	

Banishment	17.54	112.23	6.82	170.09	Degree
Rounding	4.65	35.66	7.45	60.35	Degree
Rotate in	9.56	110.15	10.98	166.52	Degree
Rotate out	10.56	112.56	12.56	150.45	Degree
Maximum strength	0.45	4.56	1.22	6.53	Kg
Strength elongation	1.31	11.23	2.23	18.25	repeat

3-2 *Discussing the results*

Dimensional variable

Through the analysis of the table, it was found that the best options are the dimensional selection that the main axis of action is the shoulder and that its angles of movement are various. Many angles are involved in all kinds of movements that an athlete performs, as they enter into tension, push and balance, and the frequent of these movements expose these joints to injury more than other joints His injuries range from sprains, fractures and dislocations, and this gives the researchers an impression. The researchers attribute that the vocabulary of the rehabilitative approach is consistent with the scientific foundations used in determining the intensity required for the development of the actual strength groups responsible for performing. The basic motor duty of the shoulder joint as the research sample in the post-test almost reached the upper limit of the range Natural movement to the effectiveness of therapeutic physical exercises in eliminating movement limitations and the flexibility and strength that they gain for joints, ligaments and muscles. The use of therapeutic physical exercises expands blood vessels, which increases the preparation of the area with oxygen, and that the use of exercises increases the working motor units and works to obtain a neurogenic adaptation in the alternating action of muscle fibers that is reflected in the development of strength, elongation and strength. Also, some blood vessels are closed while at rest, but during physical activity, the blood vessels gradually open to ensure the flow of incoming blood to the working tissues [5] [6].

Rounding variable

By analyzing the table, it was found that the best choice is the post-selection, and this gives the researchers the impression that the rehabilitative approach is. The researchers attribute the progressive development to the vocabulary of the rehabilitative curriculum that was of great benefit and for all types of injuries. The prepared approach had an effective effect, as well as the rest given within the prepared curriculum positively affected the injuries, especially in the first weeks, which led to the relaxation of muscles and ligaments in the affected area as ((that Comfort is used to reduce the severity of the injury and create an appropriate environment for healing [7]. Consequently, a contraction in the muscle increases the inability to recover easily as the rapid pulling may cause a misplaced force on the area of the injury that may increase inflammation [8] [9].

Rotation variable to inside

By analyzing the table, it was found that the best choice is the post-selection, and this gives the researchers the impression that the rehabilitative approach is. The researchers attribute the

development to the vocabulary of the rehabilitating curriculum, and this indicates the effectiveness of therapeutic physical exercises in eliminating movement restrictions and the flexibility and strength of joints, ligaments and muscles.

The rehabilitative exercises used in the rehabilitative curriculum had an effective effect on the development in the range of movement, in which flexibility was the main role in this development. As well as, the period of rest in the curriculum had a great effect in relieving pain and also eliminating inflammation when The exertion is the blood and lymph absorb the inflammatory fluid [9]. As for starting the rehabilitative approach, it reduced pain and increased the amount of blood entering the area and thus reduced inflammation by increasing the amount of white blood cells [10] [11] [12]. The use of daily and regular exercises that helped improve and regularize nerve and muscle processes and had a positive effect in operations. Excitation and activation on the cerebral cortex, during the performance of the rehabilitative approach, there is a continuous decrease in the latent period of conditional reflexes [13].

Rotate variable out.

By analyzing the table, it was found that the best choice is the post-selection, and this gives the researchers the impression that the rehabilitative approach is. The researchers attribute the progressive development to the fact that the vocabulary of the rehabilitative curriculum has a positive effect, which in turn has improved the joint movement and increased the flexibility of movement in it. Therefore, the similarity between the two movements (outward and inward rotation) that comes from the biomechanical similarity in the performance of the two movements and the convergence of rehabilitative exercises affecting the development of these two movements. The motor ranges are very important variables that must be focused on, as the movement of the joint and in the various directions is what represents the entire joint.

The practice of regular exercises leads to an increase in the flexibility of the joints, as well as flexibility leads to (reducing muscle pain) [14] "The shoulder joint is the only joint that allows us to rotate a full 360 degrees. It is the most flexible joint in the human body and it is a joint that is rapidly affected by malachia. This effect occurs because of any direct blow and the blows that occur while practicing rugby or when falling directly on the shoulder "(Al-Awadali, 1999, 54). Increasing the efficiency of the work of the ligaments and tendons that provide the joints with strength and that the therapeutic exercises led to the relief of pain to the extent that enables the injured to achieve these circles as well as for the correct use and performance. The correct way is by using the method of diversification. The change in the therapeutic physical exercises had a role in preventing the recurrence of the injury. in addition to the elimination of the factor of boredom and other psychological factors, every increase in the training load in terms of intensity and size is matched by an increases in the practical capacity of the organ systems to ensure their growth and development) [15].

Maximum force variable.

By analyzing the table, it was found that the best choice is the post-selection, and this gives the researchers the impression that the rehabilitative approach is. The researchers attribute the progressive development to the vocabulary of the rehabilitative curriculum that increasing the maximum strength in the post-test is the result of using the rehabilitative exercises correctly and seriously, as it works to stimulate blood circulation in the muscles and reduces muscle atrophy, contractility and muscle fibrosis, and maintains muscle elasticity [16]. Also, "despite the durability of the joint in terms of its construction, its exposure to strong and multiple sports movements leads to many injuries due to the contradiction in the physical structure of body weight on the one hand and the wide movement that the joint performs on the other

hand[17] . The use of static exercises, moving exercises and mixed exercises had a clear effect on the development of strength. As strength increases with the increase in the use of physical exercises and decreases in the absence of moving the part, this is in agreement with (that the development of moral strength is done by choosing fixed and moving exercises performed during the training curriculum to reach better results To develop an attribute of strength) [18]. In addition, the level of strength elevation is not necessarily a muscle enlargement, but rather it can be dependent on the efficiency of the nervous system in stimulating or improving muscle function.

Variable tensile strength

By analyzing the table, it was found that the best choice is the post-selection, and this gives the researchers the impression that the rehabilitative approach is. The two researchers attribute the progressive development to the vocabulary of the rehabilitative curriculum and that muscular endurance depends mainly on muscle strength and the safety of cooperation between them and the nervous system [19] [20]. The post-test for variable length of strength indicates that the exercises focused on the muscular belt working on the shoulder joint. in addition to the improvement in the range of movement to the good psychological state resulting from the individuals of the research sample gaining many success experiences while performing exercises, i.e. flexibility is affected by the psychological state [21]. The increase in muscle strength is accompanied by an increase in the length of strength ((muscle strength is one of the important qualities and what results from it) an increase in muscular endurance (strength prolongation), which depends mainly on the strength and safety of cooperation between them and the nervous system)) [22]. In addition, every daily warm-up unit in the curriculum included exercises for stretching and flexibility, all of which led to the development of the motor range. This development or improvement is consistent with what it is conveyed [23]. From the studies of [24] [25] which indicated the possibility of developing and developing flexibility in the joints by using positive flexibility exercises and negative flexibility.

4. CONCLUSION

Through the results that were reached, the researchers drew the most important conclusions:

- 1- The results of the research showed that the event of anterior dislocation is one of the injuries reported in the shoulder joint because of the wide range of motion that is characterized by it.
- 2- The stomach rehabilitative exercises have an effect on improving the condition of the shoulder, returning flexibility and the efficiency of the muscular ability to work.
- 3- There is no relationship between injury and body height and weight.

In light of the conclusions, the researchers recommend the following:

1. Focus on warming up well before starting exercises and competitions to avoid the occurrence of sports injury, and focus on warming up the shoulder and joint area where the injuries were most exposed.
2. Taking care of injured athletes, conducting medical examinations on them, and treating those who need treatment and care.
3. The coaches' interest in following up the players during their injury and in the recovery period, and not to involve them in competitions or exercises that increase the extent of their injuries.

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