



THE IMPACT OF A PROPOSED REHABILITATION CURRICULUM USING REHABILITATION EXERCISES AND SOME PHYSIOTHERAPY METHODS TO REHABILITATE THE SHOULDER JOINT INJURY IN THE PLAYERS OF THE IRAQI HANDBALL CLUBS IN THE SOUTHERN REGION

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Research Extract

sports rehabilitation is particularly important in the field of rehabilitation to prepare the injured player for his practice of his specialized activities and his return to the stadiums after restoring the basic functions of his body and motor abilities of activity, motor rehabilitation is the process of restoring the anatomical form and functioning of the injured member to such a condition before injury using various motor remedies with the aim of re-establishing the re-emergence. Training and muscle strengthening of the muscle ligaments of the shoulder joint as well as for the most likely to find a period of relaxation within the training program, The shoulder joint is one of the most injured joints as a result is considered a handball game of group games characterized by the behavior of the motor in which the number and awareness due to the presence of the player and opponent and ball in continuous and uninterrupted interaction of events, And high athletic achievement and good results and it can be said that the shoulder joint has a close relationship with the performance of handball players. For the shoulder joint, tide, rounding, dimensions, recycling in and out, maximum strength, carrying strength, degree of pain). As for the research, the rehabilitation curriculum using rehabilitation exercises and some physical therapy methods has a positive impact on the rehabilitation of the shoulder joint in the players injured in the handball game in the southern region .As for the research method, the researchers used the experimental method to suit the nature of the problem to be solved, but the sample of the research was the players with shoulder joint injury and the number of (7)



players injured in the handball game in the southern region, but the most prominent conclusions and recommendations reached by the researchers were The rehabilitation program used increased the muscle strength of the muscles working on the shoulder joint. The most important recommendations recommended by the researchers were that the use of the proposed rehabilitation program in the rehabilitation of injuries suffered by players in the rest of the body.

Key words : Rehabilitation, Rehabilitation Exercises, Physiotherapy Shoulder Joint Injury

1.1 The introduction of the research and its importance

Motor rehabilitation is one of the basic natural means in the field of treatment of sports injuries, and sports rehabilitation is particularly important in the field of rehabilitation to prepare the injured player for his practice of his specialized activities and his return to the stadiums after restoring the basic functions of his body and motor abilities of activity, motor rehabilitation is the process of restoring the anatomical form and functioning of the injured member to such a condition before injury using various motor remedies with the aim of re-establishing **the** re-emergence To practice his activity after his injury and protect the affected area from recurrence of injury and the process of motor rehabilitation depends on the performance of physical exercises of various kinds in addition to the use and use of devices and tools for the purpose of completing treatment and rehabilitation processes, **that the treatment of movement and legalized** exercises aimed at a highly experienced rehabilitation specialist is one of the natural means in the field of motor rehabilitation where this stage is important for the return of the individual affected to his natural condition Hence, refer to exercise in general and its effectiveness in particular. Sports injuries are one of the most difficult things that may occur in the players during his sports career, which is greatly related to the player's high physical fitness and physical health and through experiments I found that many players were forced to leave the game while at the top of their giving due to injuries suffered either during training or matches, that exposure to sports injury was corrected in the players who practice sports events and especially in the game of handball as a result of friction With the opponent as well as not warming up well and other causes or factors that cause the injury. The presence of the injured player



for long periods under treatment and lack of play of the game may lead to the formation of negative thoughts and things about his injury and therefore builds on the perception that the inability to heal and return to his favorite hobby in the practice of the game. The shoulder joint is one of the most injured joints as a result is considered a handball game of group games characterized by the behavior of the motor in which the number and awareness due to the presence of the player and opponent and ball in continuous and uninterrupted interaction of events, and despite the existence of laws that provide for the protection of the player it. be on the fitness of the There are many injuries that occur in general and shoulder joint injuries in particular, so the focus should players as well as good warm-up during the training unit and the muscle strengthening of the muscle ligaments of the shoulder joint as well as the most recent who found a period of relaxation within the training program, in order to reach a good performance And high athletic achievement and good results and can be said that the shoulder joint has a close relationship with the performance of handball players, as the level of performance of the player . Kraaled depends on the safety of this joint. An improvement in the athlete's physical response and the return of the injured joint to normal before the injury occurs.

1.2 Search problem

In our time, sport has received great support and the greatest luck of care and care from the world's people and has thus been able to take a prominent position among other vital activities , which has contributed to its abnormal spread as it has witnessed great development across different countries. The world, and among the sports activities that have become widespread among peoples is handball, as the latter has met with great popularity from the party of children and young people of both nationalities, that the modern handball game is characterized by speed of play and skill in technical and linear performance and this requires The player must be highly fit, which can be developed through sports training represented by the operations of players, players and sports teams through proper planning in all aspects of training and training with the aim of achieving the highest possible level and results in specialized surgery and maintaining it for the duration of a period of time enabling the form of sports for players in timings suitable for competitive seasons in specialized sports. Therefore, training for the



development and development of physical qualities is also through training in motor skills and technical skills, including the skill of shooting in handball, the latter is related to the safety of the shoulder joint, so it is necessary to focus on the good training of this joint and the muscle strengthening of the ligaments of his muscles by doing exercises that have to do with strengthening the ligaments of the muscles of the shoulder joint. This is considered the shoulder joint and through the anatomical composition in the human body and the most complex composition, and due to the importance of this joint in handball players in shooting or passing, which is one of the basic skills in handball, the level of performance and athletic achievement of the handball player depends on the safety of this joint, and what can be said that the shoulder joint for It has a close relationship with the performance of handball players, so his injury directly affects the performance of the players of the ball of the hand and hence completes the problem of research in seeking to know him and provide what the injured player needs in the rehabilitation of the shoulder joint, the researchers chose this problem because of its importance in the field of sports qualification in general and the play of handball in particular.

1.3 Search goals

- 1- Preparing a proposed rehabilitation curriculum for the rehabilitation of the shoulder joint in the injured players in the handball game in the southern region.
- 2- Identify the effect of the rehabilitation curriculum according to the variables under study which are (the motor range of the shoulder joint in terms of tide, bending, rounding, dimensions, internal recycling and circulation outside, maximum strength, carrying strength, degree of m).

1.4 Search duties

- 1- The qualifying curriculum using rehabilitation exercises and some physiotherapy methods has a positive impact on the rehabilitation of the shoulder joint in the injured players in the handball game in the southern region.
2. There is an improvement in the physical and motor variables under study in injured handball players in the southern region .



1.5 Areas of research

1-5-1 Human Field: The 7 players with a shoulder joint injury are injured players in the handball game in the southern region.

1.5.2 The temporal field for the period from 18-9-2021 to 1-3-2022.

1.5.3 Spatial Field: Shifa Center for Medical Rehabilitation and Physiotherapy in Maysan Province, Al-Fassalja Laboratory and Rehabilitation at the Faculty of Physical Education and Sports Sciences - University of Maysan.

Research methodology and field procedures

2.1 Research approach

In order to reach the scientific and objective facts, the appropriate method of research must be chosen, so the researchers used the experimental method in order to suit the nature of the problem to be solved because "the experimental approach is based on experimentation and field testing guided and informed by the means of observation and based on the use of modern scientific tools, equipment and equipment in order to detect and highlight any causal relationship that caused one or more of these variables."¹

2.2 The research community and its sample

In order to reach the exact research results, the researchers conducted a field survey of doctors and surgeons of orthopedics, joints, fractures, physiotherapy and rehabilitation centers in the southern provinces, including (Basra, Maysan, Dhi Qar) as well as clubs in Basra province with a hand ball and participation in the Iraqi League for the excellent and first degree of the sports season (2021-2022) It is (Basra Municipality - Arabian Gulf - Maysan Oil - Tigris - Victory - Rifai) and for the time period from 6/10/2021 to 16/11/2021, the researchers chose the sample in the deliberate way and included the sample on the injured players With the shoulder joint, the number of athletes injured in this period (7) players table no. 1 builds homogeneity of the members of the research sample.

⁽¹⁾ Marwan Abdul Majid Ibrahim: Methods and curricula of scientific research in physical and sports education1, Amman, International Scientific Publishing and Distribution House, 2006, p. 137.



Table (1) shows the homogeneity of the members of the research sample in morphological measurements and variables under study

| Variables | Unit of measurement | Arithmetic medium | Standard deviation | Variation coefficient |
|----------------------|----------------------------|-------------------|--------------------|-----------------------|
| Length | poison | 179.565 | 5.275 | 2.896 |
| Weight | Kg | 75.718 | 3.966 | 5.291 |
| lifetime | year | 24.857 | 1.573 | 7.196 |
| Training age | year | 9.385 | 1.112 | 25.950 |
| Where the injury is. | Shoulder joint | | | |
| Degree injury | Severe third degree | | | |

This means that the sample is well distributed and homogenized because the value of the variation factor was limited to (1,350-28.82%) of the research sample, which is acceptable" as the value of the variation factor as it approaches (1%) is high and if it exceeds (30%) it means that the sample is heterogeneous²."

2.3 Methods of collecting information, devices and tools used in research

* Arab and foreign references and sources. * (Internet) * Information form for injured players * Questionnaire form opinions of experts and specialists on the appropriateness of variables * Questionnaire form opinions experts and specialists on the proposed qualifying curriculum * laptop * camera photography graphic * Rastameter to measure height * medical balance to measure weight * measuring tape (shoulder circumference)* laser discs * Gonimetry device to measure the normal motor range of the body's joints.* German-made electromuscular stimulation physiotherapy device * Iron hall with all its requirements of weights and weights varied

2.4 Steps to conduct the search

2.4.1 Identify the tests in question:

2.4.1.1 Pain test¹³:

The authors designed a questionnaire form to the degree of loyalty, which included a number of questions presented to the infected person in tribal, intermediate and remote tests, and the form was presented to a group of experts (***) who confirmed its validity.

⁽²⁾ Wadih Yassin Mohammed Al-Tikriti, Hassan Mohammed Abdul Obaidi: Statistical applications and computer uses in sports education research, Mosul, Book House for Printing and Publishing, 1999, p. 160.

(1) Nizar al-Talib, Mahmoud al-Samarrai; Principles of statistics and physical and sports tests Mosul, University Press, 1981, p. 139.

(2) Wadih Yassin-Yassin Taha; Source mentioned above P. 182-185.

(*) Names of experts and specialists hired by the researcher Wen.



Purpose of testing: Measuring the muscle strength of the neck.

2-4-1-2 Motor range measurement test: 1- Folding measurement test forward. 2- The back tide measurement test. 3- Test the measurement of rotation inward. 4- The recycling measurement test for the outside

2.4.1.3 Test to measure the strength of muscles on the shoulder strap2:

Spring Scale is used to measure the strength of muscles operating on the shoulder strap.

2.4.1.4 Test to measure the motor range of the shoulder strap: 0⁴

2.5 Reconnaissance experiment:

The researchers conducted the reconnaissance experiment with the help of the team ^(5*) on a sample of players with shoulder injuries outside the original sample on Saturday, 10 November 2021, numbering (2) injured.

2.6 Field trial (main experiment):

2.6.1 Tribal test:

Tribal tests were conducted on the 7 members of the search sample with shoulder joint injury by the assistant team starting on Sunday, 13 November 2021, ending Wednesday, January 8, 2022 at the Medical Healing Center for Injured Rehabilitation in Maysan Province, and the tests were conducted in the following sequence: 1- Measuring pain score, 2- test measuring the strength of the muscles on the neck and shoulder strap. 3- Flexibility measurement test (motor range) of muscles working on the neck and shoulder strap. Researchers have installed all the conditions for the tests in terms of location and time so that the same conditions can be created when conducting intermediate and remote tests.

2.6.2 Qualifying curriculum:

The researchers prepared a proposed rehabilitation curriculum using rehabilitation exercises and some methods of physical therapy and included electrical stimulation of the affected area of muscles working on the shoulder. The qualifying curriculum included a set of constant and gradually moving exercises so as not to affect the movement of the joint significantly and thus lead

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 - A.M.D/ Ahmed Mahdi Shalsh- Injuries and rehabilitation/ Misan University – Faculty of Physical Education and Sports Sciences.

(1) Marwan Abdel Majid Ibrahim; Tests and measurement in sports education1 (Jordan, Arab Thought House for Printing and Publishing, 1999), p. 86.



to an increase in the pain aimed at rehabilitating the muscles of the shoulder joint and the vocabulary of the qualifying curriculum was applied to the members of the research sample on Sunday, 13/11/2022, which was the duration of the curriculum 8 Weeks and 3 units per week distributed over the days (Sunday, Tuesday, Thursday) the duration of the treatment unit between (20-30) minutes and according to the duration of treatment including 5 minutes protection, the researchers supervised and field-to-field exercises by the research sample as all the members of the sample.

2.6.3 Remote test:

The remote test was conducted on the members of the search sample and with the help of the team, and the test was conducted in the same circumstances and the same sequence as the tribal test, where the remote tests ended on Wednesday, January 9, 2022.

2.7 Statistical means:

The researchers used the SPSS statistical bag system version (23).

3- Presenting, analysing and discussing the results

1.3 Presentation and analysis of tribal, middle and remote innovations in studies in the men's category

Table (2) Between the computational circles and the standard deviations of variables under consideration in the three tests (tribal, remote) of the research sample

| Variables | Tribal test | | Remote test | |
|----------------|-------------|-------|-------------|-------|
| | Q | ± | Q | ± |
| Degree of pain | 3.77 | 0.81 | 0.82 | 0.77 |
| Bend forward | 117.30 | 18.32 | 162.87 | 14.30 |
| Tide back | 20.83 | 5.43 | 52.62 | 6.00 |
| Deportation | 109.87 | 9.81 | 180.14 | 7.79 |
| Rounding | 18.57 | 5.61 | 62.33 | 8.28 |
| Turning in | 107.73 | 9.42 | 161.72 | 7.14 |
| Recycling out | 129.64 | 11.91 | 172.11 | 7.87 |
| Maximum power | 6.11 | 0.989 | 9.574 | 0.899 |
| Power table | 23.00 | 3.43 | 31.12 | 3.58 |

Table (2) shows the computational circles and the random deviations of tribal and remote tests of the variables under study, as the table showed that the value of the computational medium in the tribal test of the variable (pain degree) was 3.77) With a standard deviation (0.81), while the value of the arithmetic medium in the distance test of the variable itself was (0.82) and a standard



deviation (0.77). As for the variable (folding forward), the value of the computational medium and the tribal test (117). 30) and with a standard deviation (18. 32), either in the distance test (162.87) and by standard deviation (14. 30) . The computational medium value of the "back tide" variable for the tribal test was 20. 83) and with a standard deviation (5. 43), while the value of the computational medium in the remote test and for the same variable (52. 62) with a standard deviation of (6. 00) . The variable (dimensions) was the value of the calculation medium of the tribal test (109.87) and a standard deviation (9). 81), the computational medium of the remote test (18. 014) with a standard deviation (7.79). 57) With a standard deviation (5.61), the computational medium of the remote test (62. 33) And with a deviation (8.28). 73) and drifting (9. 42) While the computational medium of the remote test and the same variable (161. 72) and drifting (7.14). The computational medium was for the variable (rotation abroad) and for the tribal test (129. 64) and drifting (11. 91), while the computational medium was for the remote test and for the variable itself (172. 11) and drifting (7. 87. The computational medium of the maximum force variable and the tribal test (6. 11) with a deviation (0.989), while the computational medium of the remote test and the center itself (9.574) and deviation (0.899). 00) And perversion (3. 43), while the computational medium was for the remote test and for the variable itself (31. 12) And perversion (3. 58) .

3.2 To find out which tests are the best, the morale of the differences between the computational circles of all tests has been treated in a less morally different way (L.S.D.

Table (3) Shows computational circles, differences, calculated L.S.D. value and indication of differences between the three (tribal-remote) search tests in all search variables

| Variables | Totals | Computational circles | Teams of computational circles | L.S.D. calculated value* | Significance of differences |
|-------------------|-----------------|-----------------------|--------------------------------|--------------------------|-----------------------------|
| Degree of pain | Tribal- Al-Adhi | 3.72 - 0.83 | 3.04* | 0.496 | Moral |
| Bend forward | Tribal- Al-Adhi | 112. 43 - 165.83 | 54.40* | 10.200 | Moral |
| Tide back | Tribal- Al-Adhi | 21.64 - 51.82 | 30.20* | 3.368 | Moral |
| Joint dimensions | Tribal- Al-Adhi | 112.86 - 174.43 | 60.60* | 4.767 | Moral |
| Detailed rounding | Tribal- Al-Adhi | 17.67 - 62.84 | 46.20* | 3.269 | Moral |
| Rotate inward | Tribal- Al-Adhi | 107. 79 - 167.63 | 59.80* | 6.773 | Moral |
| Rotate out | Tribal- Al-Adhi | 132.0 - 171. 11 | 39.0* | 6.108 | Moral |
| Extreme powers | Tribal- Al-Adhi | 5.77 - 9.54 | 3.84* | 0.508 | Moral |
| Power table | Tribal- Al-Adhi | 22.22 - 30.40 | 8.28* | 1.865 | Moral |



The lowest moral difference (L.S.D) value appeared at a semantic level (0.05) (0.496) and after comparing the values of differences between the computational circles of each test individually with the value of the lowest moral difference (L) The researchers found that the value of the difference between the computational medium of the tribal test with the computational medium of the remote test was (3.04), which is greater than the value (L.S.D) and this means that the difference is moral either the choice of folding Forward, the lowest moral difference value (L.S.D) appeared at a semantic level (0.05) (10.200) and after comparing the difference values between the computational circles of each test separately with the value of the lowest moral difference (L.S.D) in the forward bend test, the difference between the computational medium of the tribal test with the computational medium of the remote test was (54.40), which is greater than the value (L.S.D.)) This means that the difference is moral. Looking at the table, we find that the tests have achieved the highest moral difference and the researchers acknowledge that the rehabilitation exercises have an impact on the removal of pain and thus increase the flexibility of the joint as a result of daily exercise. Table 3 shows that the value of the lowest moral difference at the indicative level (0.05) is (3). 368), comparing the values of differences between the computational circles of each test separately with the value of the lowest moral difference (L.S.D), the difference between the computational medium of the tribal test with the computational medium of the remote test is (30.20) and is greater than the value (L.S.D). 368) After comparing the values of differences between the computational circles of each test separately with the value of the lowest moral difference (L.S.D). 84) It is greater than the value (L.S.D) which means that the difference is moral. 269) After comparing the value of differences between the computational circles of each test separately with the value of the lowest moral difference (L.S.D). The computational medium of the tribal test with the computational medium of the remote test was (46.20) which is greater than the value (L.S.D) which means that the difference is moral. The value of the lowest moral difference (L.S.D) appeared at the indicative level (0.05) is (6.773) and after comparing the values of differences between the calculation circles of each test separately with the value of the lowest moral difference (L.S.D). With the value of the computational medium of the remote test, it was (59.80), which is greater than the value (L.S.D), which means that the difference is moral. 8) After comparing the value of differences between the computational circles of each test separately with the



value of the lowest moral difference (L.S.D), the value of the difference between the value of the computational medium of the tribal test with the value of the computational medium of the remote test was (39.0) which is greater than the value (L.S.D) which means that the difference is moral. The lowest moral difference (L.S.D) was shown at a semantic level (0.05) (0.508) and after comparing the value of differences between the computational circles of each test individually with the lowest moral difference value (L.S.D). The difference between the value of the calculation medium of the tribal test with the value of the computational medium of the remote test was (3.84) and is greater than the value (L.S.D), which means that the difference is moral. The value of the lowest moral difference (L.S.D) appeared at a semantic level (0.05) (1.865) and after comparing the value of differences between the computational circles of each test separately with the value of the lowest moral difference (L.S.D), the value of the difference between the value of the computational medium of the tribal test with the value of the computational medium of the remote test (8.28) was greater than the value (L.S.D. This means that the difference is moral. The average average value of the test with the computational medium of the remote test was (7.40), which is greater than the value (L.S.D), which means that the difference is moral.

2-3 Discussion of results

From what was found in the two braids (2-3) shows the existence of moral differences between the two tests (tribal-remote) and the variables of research. The researchers attribute that the reason for these differences is the variable degree of pain and the impact of the qualifying curriculum used as this program contributed to the increase of the chance of recovery and rehabilitation within a short period of time where this qualifying curriculum developed contained a set of Exercises by using fixed and moving muscle constriction exercises, as the performance of these mobile exercises is characterized by the use of the principle of appropriate muscle lengthening (motor) which researchers believe has contributed to the direct impact of the development of this Strength in the injured sample.



- Discussion of the results of the pain test

That the moral differences that appeared in the pain degree test indicate that there is an effect of therapeutic physical exercise was on all kinds of injuries and that the qualifying method prepared was effective and beneficial, especially the use of some means of physical therapy and this contributed to reducing the level of pain in the injured players and thus helping to perform some exercises prepared within the rehabilitation curriculum, And because the decrease in the degree of pain in the tribal test was the result of the use of physiotherapy methods in the first reasons that preceded the application of the rehabilitation curriculum . and that this development that occurred in the variable degree of pain did not come through the tandem but came as a result of the nature of the proposed curriculum where it included A range of therapeutic exercises as well as rest periods that were consistent with the rehabilitation units of the qualifying curriculum with each other. As the rest periods between exercises as confirmed (Thamer Al Hasso) that muscles need a period of time from a certain rest and this is a physical and natural reaction to the need of muscles to feed after the effort exerted⁶. The researchers also used the rule of gradient in training pregnancy from easy to difficult and had a clear effect in not repeating the occurrence of injuries or increased pain. (The gradient rule is a protection against internal disorders of the joints and muscle tendons, in other words the dimensions of rupture and muscle spasm⁷.

Discuss the results of the selection of the fold forward

The researchers showed through a review of the results that the development between tribal test and remote test led to a marked development in the forward bending test attributed by the researchers to the use of therapeutic physical exercises contributed to the activation of muscles, tendons and ligaments after It was noted that there is a lack of movement and use as the rehabilitation units contain different types of methods of development of the motor range before the exercises of constant and mobile flexibility and the work of these exercises slowly and with the widest mobility helped to obtain these results as (obtaining sufficient flexibility for muscles, tendons and ligaments of a particular joint or joint group in a particular movement or effectiveness depends on the amount

⁶Thamer Saeed Al-Hasso: Therapeutic exercises Baghdad University, Baghdad University Press, 1978, p. 19-20.

⁷ Qasim Mandlawi, Mahmoud al-Shati: Sports Training and Records, Mosul University, Book House for Printing and Publishing, 1987, p. 123.



and intensity of exercises that lead to a wide range of movement as well as on The degree of flexibility gained by the individual⁸.

Discuss the results of the back tide test

By reviewing the results, the researchers found that the after-test is better than the tribal test, due to the fact that the injured person in the early stages of injury needs enough time to overcome the difficult stage, so the researchers attribute this to moral change. To the effectiveness of therapeutic exercises in eliminating motor dilation in the affected area because therapeutic exercises increase the body's flexibility and activity and increase neuromuscular compatibility^{9,10}.

Discussion of rounding test results

Through the tables it is clear that the best tests are the remote test and the researchers attribute this development to the fact that the method prepared led to the development of the motor range of the area of the shoulder joint and satisfactorily, as the results showed moral differences in all the variables of the study and in favor of the remote test. The researchers believe that the result of these differences is due to the reason that the method prepared was able to eliminate the movement reduction in the area of the palm as a result of the injury and all the directions of movement.¹¹

Discuss the results of the inward rotation test

The researchers found through the results obtained that the rehabilitation method has achieved moral differences between the tribal and remote tests, which the researchers attribute to the fact that the rehabilitation exercises used in the rehabilitation curriculum as well as the use of some physiotherapy methods had an effective effect in this development. The situation in motor and flexible tides has played an effective role in this development and how it is developed and developed as well as the comfort of the curriculum has had a great impact on relieving pain as well as eliminating inflammation when (rest

⁽⁸⁾ Wadih Yassin Al-Tikriti, Yasin Taha Al-Hajjar: Physical preparation for women Mosul University, Book House for Printing and Publishing, 1986, p. 118.

⁽⁹⁾ Ahmed theصBaحGod's compensation: Sports health and physiotherapy Beirut, Sidon, Modern Library, 1973, p. 199-122.

⁽¹⁰⁾ Fouad Al-Samarrai, Hashim al-Samarrai: Sports injuries and physiotherapy I1, Jordan, Amman, Middle East Printing Company, 1988, p. 220-222.

⁽¹¹⁾ Booher Hames, Cary A : Athletic Injuriy Assesmnt, second edition, by times mirror mosby college publishing USA, 1981, p.122 .



and reducing effort the blood and lymph are ¹²performing inflammatory fluid respite). It reduced pain and increased the amount of blood entering the area and thus reduced inflammation by increasing the amount of egg blood cells.¹³¹⁴¹⁵

Discussion of the external rotation variable test

Through the results obtained, we find that there is a remarkable progression and in favor of the further tests and the researchers attribute this development to the nature of the rehabilitation curriculum and the bases that included it developed according to the exact scientific foundations, as the researcher took into account the gradualness of stress as well as repetition as well as for the comfort that governs it well. It has had an important role in preventing the recurrence of the injury again in addition to the dimensions of the boredom factor and the use of some exercises that contain excitement and other psychological factors and that each increase in the pregnancy of training due to severity and size is offset by an increase in the practical capacity of organs to ensure their growth and development¹⁶.

Discussion of maximum strength variable results

Through its findings regarding the selection of the maximum strength variable, it is clear that there are moral differences between the two tests (tribal-remote) and the researchers attribute this development in the remote hiding to the use of the curriculum in its vocabulary and regularity in its application and permanent supervision by researchers. It has also had a significant impact on this development that the use of therapeutic physical exercises and the continued development and growth of strength in exchange for low pain grades means that the vocabulary of the curriculum was consistent with each other from the use of comfort and physical exercises and that the use of constant exercises, moving exercises and mixed exercises had a clear effect on the development of strength as the strength increases by increasing the use of physical exercises and decreases in the case of non-movement of the part and

⁽¹²⁾ Juma Mohammed Awad: Small and frequent injuries to football players The plane, master's thesis, Baghdad University, faculty of sports education, 1988 . P. 45.

⁽¹³⁾ Mercer : Orthopaedics Surgery , 5th edition, Arnold publishing Inc . USA . 1984 . p. 1139 .

⁽¹⁴⁾ prentice . W. E. : Therapeutie Modalities In sport medicine . Times Mirror . Mosby college publishing , USA 1986 . p.80-81 .

⁽¹⁵⁾ Peterson . L. Renstrom . p. : sports Injuries Their preyention and Treatment , by kyodoshing coong printing Industries pte. LTd, Singapore, 1990. p.153 .

⁽¹⁶⁾ Abdul Ali Nassif, Qassim Hassan Hussein: Principles of sports training science Baghdad, Higher Education Press, 1988, p. 122.



this is consistent with (the development of moral strength is done by choosing fixed and mobile exercises Performed during the training curriculum to reach better results to develop the status of strength¹⁷.

Discussion of the results of a variable of strength

Tables (2,3) of the results in a variable test (strength table) show that there are moral differences in the test (tribal and remote) and moral and in favor of the remote test . The researchers attribute that the exercises used in the curriculum are due to the high vocabulary of the qualifying method prepared by the researchers according to the correct scientific foundations and that the increase in muscle strength is accompanied by an increase in the strength table ((muscle strength is an important characteristic and the resulting increase in muscle endurance (extended strength) which depends mainly on the strength and safety of cooperation between them and the nervous system))¹⁸ . The development of maximum strength has had an impact on improving the power table, which is consistent with the research (Wakinsk and Dchlorm), which confirms that stretching exercises can develop muscle strength and vice versa¹⁹.

Conclusions and Recommendations

4.1 Conclusions: -

- 1- The rehabilitation program used increased the muscle strength of the muscles working on the shoulder joint and therefore led to the speed of recovery of the injured players in the shortest possible time .
- 2- There are statistically significant differences between tribal and remote tests and this is shown by the results tests for the study variables which indicates the success of the qualifying method used.
- 3- The pain score indicator improved rapidly and clearly after the use of rehabilitation exercises and physiotherapy methods within the rehabilitation curriculum.
- 4- The development and apparent improvement in the motor lengths of the shoulder joint is linked to the disappearance of pain, so the positive effect of the

(¹⁷) Jeffrey . E. Falkel : Methods of training in sport physical therapy Bernard . T. ditop pupishing Churchill living stonc , USA , Newyork , 1986 . p. 76 .

(¹⁸) Mohammed Hassan Allawi, Mohammed Nasreddine: Motor Performance Tests, Cairo, Arab Thought House, 1982, p. 20.

(¹⁹) Fadhil Sultan Sherida: Member Jobs and Sports Training, Saudi Arabia, Saudi Sports Students Federation, I1, Riyadh, Crescent Presses, 1990, p. 155.



rehabilitation approach in reducing or removing pain in the first two weeks has led to a clear improvement in the motor range.

5- The results showed that the development of motor range, maximum strength and endurance was more pronounced than the motor development in the research sample and the reason that muscle construction as a result of the use of the approach that was geared towards muscular development and the extent of movement.

4.2 Recommendations: -

- 1- Use the proposed rehabilitation program to rehabilitate injuries suffered by players in the rest of the body.
- 2- The need to use the scientific foundations, especially physical and physical in the design of the rehabilitation program in order to determine the level of severity and progression of the training pregnancy.
- 3- Trainers and therapists working in the field of injuries and rehabilitation should take care of the brown side, especially warm-up before starting the training unit.
- 4- The use of fixed and mobile exercises in the preparation of rehabilitation programs because of their role and scientific importance in improving the strength and size of muscles to reach normal and at an appropriate standard period.

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Rehabilitation Unit Form

| Exercise Name | Exercise Time | Number of repetitions | Rest of repetitions | Number of totals | Rest of repetitions | Total Exercise Time |
|-----------------------------------|---------------|-----------------------|---------------------|------------------|---------------------|---------------------|
| Rotate the arm counter clockwise | 30 Second | 3 | 5 Second | 2 | 90 Second | 380 Second |
| Rotate the arm clockwise | 30 Second | 3 | 5Second | 2 | 90 Second | 380 Second |
| Rounding the affected arm | 30 Second | 3 | 5 Second | 2 | 90 Second | 380 Second |
| Distract the affected arm | 30 Second | 3 | 5Second | 2 | 90 Second | 380 Second |
| Full rotation of the affected arm | 30 Second | 3 | 5 Second | 2 | 90 Second | 380 Second |