(IJRSSH) 2020, Vol. No. 10, Issue No. I, Jan-Mar **e-ISSN: 2249-4642, p-ISSN: 2454-4671**

THE EFFECT OF SPECIAL EXERCISES ASSOCIATED WITH SOME THERAPEUTIC MEANS IN THE HABIT OF REHABILITATION OF SPRAIN OF THE ANKLE JOINT FOR FIRST-CLASS PLAYERS FOOTBALL

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DOI: 10.37648/ijrssh.v10i01.019

Received:04th October 2019; Accepted:23rd November, 2019; Published: 04th December, 2019

ABSTRACT:

The study aimed to identify the impact of special exercises used not usually rehabilitation of sprain of the ankle joint for the players of the first degree football. Where the researchers used the experimental approach in a one-group method to suit the nature of the research and the results of the study showed the existence of statistical differences for the benefit of post-test and the researchers recommend that special exercises with therapeutic methods helped to improve the Move the ankle joint.

***Keywords**: Sports Medicine, Rehabilitation, Football.*

INTRODUCTION

Despite the tremendous progress in the field of sports medicine, specifically in the field of sports injuries and taking all the measures and safety factors in the stadiums and sports training procedures to reduce injuries, we note the high incidence of incessantly and may be due to excessive enthusiasm by the players or the intensity of competition and try to win advanced positions In different sports levels making players more susceptible to injury.

Injuries vary according to the nature of sports activities and according to the game and the way of performance and the laws governing them and the reasons for their occurrence and place may also vary from one athlete to another depending on the level of physical ability and skill and individual differences as well as from effectiveness to another and note that football injuries differ from other activities because

most injuries occur Lower limbs (69%) of all football injuries due to the continuous use of lower limbs in football (Riyadh, 24,2002)

Football injuries are multiple and the most prominent of these injuries are the ankle joint, which is the most common, because the ankle is one of the most complex joints of the body, if not the most at all, often comes in the form of rupture or stretching in the ligaments that hold the ankle bones, and this is because the ankle area Filled with bones, tendons and ligaments that are all controlled by a group of muscles similar in complexity, the size of the ankle does not fit at all with the amount of pressure for this area due to movements below the body has been calculated this amount five times the body weight during walking (13) times the body weight during running Foot be in constant contact It is no wonder that ankle injuries can reach 85% of all joint injuries (Abdel Nabi, Abboud, 91,2018) because the joints are the axis The ankle joint is one of the joints that have a great responsibility in carrying the body weight as well as the movement of the movement from the feet to the upper limbs and control the force required for motor performance and stability and jumping and lifting the body (Mohammad, 40,2008)

This injury is usually accompanied by many negative side effects. Perhaps the most prominent of these effects is that the joint's mobility decreases, pain, swelling and deficiency in the general motor range of the joint, as well as an imbalance in the stability of the ankle joint and the general balance of the body and these symptoms increase with increasing degree of injury, and many of the sufferers suffer after this injury By the imbalance of the body on the injured joint resulting in recurrence of the injury.

When sprains occur, physical therapy and rehabilitation sports medicine programs can be used to treat mild and moderate cases, but if the case is severe can be treated surgically laparoscopic or open surgery to remove the synthesis and lengthen the muscles and repair the case of bone and cartilage methods of bone construction, while delayed cases can be treated with artificial joints surgery, preferably Do not perform it before the age of 55 to ensure the success of the artificial joint and longevity.

Due to the multiple researchers' injuries to the players of the ankle joint and the inability to move and maintain the balance of the sports body as a result of rupture of one of the ligaments of the ankle joint, which prompted the researcher to try to design a rehabilitation method to link the ankle joint in football players to return the same functional efficiency as it was before Most of the rehabilitation methods focused on the development of the muscular strength of the muscles surrounding the ankle joint and the flexibility of the joint (motor range), which led the researcher to prepare a complementary approach to the previous rehabilitation curricula with a focus on the element of equilibrium and a sense of stability at the joint. Ankle and using some rehabilitation.

Either search problem

Most of the current studies confirm that there is a noticeable increase in the rates of injury to athletes annually and this problem is serious in itself because it threatens athletes, especially athletes of the higher levels, so the injury is an obstacle limit of these athletes to continue their sports.

Through the work of the researcher as a coach of one of the first-class clubs, tours and field visits observed that the problem of research is that most of the injuries are repeated through excess training or flooring of various stadiums or physical stress or because of sudden movements experienced by the athlete, which leads to subject them to the possibility of definitively stay away from their activity Most of the trainers are trained to the main parts of the body, which takes the largest percentage of performance without looking at other parts of the body that are the main joints of movement in the performance of the performance leading to an imbalance in the work of the parts of the body. Various special joints m.

The ankle joint is one of the most important joints in the body so we find that what is happening in the training of ligaments and muscles working on it leads to an imbalance in the balance of the work of the joint so the weakness in the work of the ankle joint reflected negatively on the muscles working on it and surrounding the joint, and in the light The researchers found it necessary to study the equilibrium to follow the changes that occur before and after rehabilitation of the ankle joint because of its significant role in the rehabilitation and treatment of the player and return to the normal state it was before injury or as close as possible and as soon as possible.

The research objectives were:

- the preparation of special exercises associated with some therapeutic means to rehabilitate the sprain of the ankle joint for the players and first-class football.
- Recognize the effect of rehabilitation exercises for sprained ankle joint on the motor range of the injured foot and sound when the research sample.
- Recognize the effect of rehabilitation exercises for sprained ankle joint on the skill side (handling - damping) when the research sample.
- Recognize the effect of rehabilitation exercises for sprained ankle joint on the strength of the extensor muscles and holding the injured foot and sound when the research sample.

MATERIALS AND METHODS:

Research Methodology:

The researchers used the experimental approach using a single group design to suit the nature of the research. The research community consists of football players and first division clubs (Baghdad governorate) with sprained ankle joint inside the Sports Medicine Center for the period from 1/5/2019 to 1/6 / 2019.The data was collected for each player in the research community and his injury to determine its history, type and severity Injury to the ankle joint, the research sample was randomly selected from the injured to sprain ankle joint and the number (6) players.

The researchers chose the following tests:

) Measurements of kinetic range are (sand, 277,1993

.measure the angle of flexion of the ankle joint up towards the leg bone -

The injured move the back of the foot up in the direction of the bone of the stalk, and the angle of flexion of the back of the foot between (30 − 0) degrees.

Measuring the angle of the soles of the foot (degrees) -

The injured move the soles of the foot away from the bone of the stalk, and the range of this movement between (50 - 0) degree

)Measuring the angle of the medial flexion of the foot (degree -

The patient rotates the soles of the foot inward, ie move the soles of the foot towards the imaginary line that divides the body in half anatomically equal.

)Measurement of lateral bending angle of foot (degrees -

The patient rotates the soles of the foot outside any moving the soles of the foot away from the fictitious fair line of the body, and the extent of rotation of the soles of the foot outside (15−0 degrees).

) Tests to measure muscle strength working on the ankle joint (Raouf, 53,2005 -

A) test the strength of bend back foot(

Purpose of the test: To measure the strength of flexion of the back of the injured and uninfected foot and the extent of the affected foot affected by the rehabilitation method.

The necessary tools: Prove the foot in the device Balmdat prepared for this purpose and measure the injured from (the initial position) to begin the test after zeroing device.

Description of performance: The patient has the maximum flexion of the foot, which indicates the dynamometer in kilograms

B) toe bend strength test(

-The purpose of the test: to measure the strength of the flexion of the toe of the injured and non-infected and sound and the extent of the affected foot affected by the rehabilitation method.

-Performance description: from the initial position and measure the injured with the maximum flexion, soles of the foot and read the amount of force recorded on the dynamometer (in kg)

C) Testing the medial flexion strength of the foot(

-The purpose of the test: To measure the strength of the medial flexion of the injured and non-injured foot and the extent of the affected foot affected in the rehabilitation curriculum.

-Description of performance: from the initial position of the injured maximum flexing of the foot and read the amount of force recorded on the dynamometer (in kilograms).

D) lateral flexion strength test(

Purpose of the test: To measure the strength of lateral flexion of the injured and uninfected foot and the extent of affected foot in the rehabilitation curriculum.

Description of performance: From the initial situation measuring the victim with a maximum lateral flexion of the foot and read the amount of force recorded on the dynamometer (in kg)

:Skill Tests

A- Handling test towards a small target located (20) meters (Hamza, 32,1999)

-Purpose of the test: to measure the handling accuracy

- Tools required: 5 foot balls and a small target dimensions (110 cm-63 cm) electronic stopwatch number (2)

Test procedures: Draw the starting line with a length of (1 m) and at a distance of (20 m) from the small target, put a fixed ball on the starting line.

Description of performance: The player stands behind the starting line facing the small goal, and begins when giving the signal handling ball soles towards the goal to pass from it, and given to each player (5) successive attempts.

Registration: The score is calculated by the total scores obtained by the player from handling the five balls as follows:

.Two degrees for each correct attempt pass from the small target

.One score if the ball touches the post or the bar and did not enter the goal

.Zero if the ball out of the small goal

B - Test stop (put down) movement of the ball. (Hamza, 37,1999)

The objective of the test: to measure accuracy in stopping the ball and regain control of the soles of the foot.

Tools used: 5 foot balls, 2 x 2 m test area, 6 m from the starting line.

Performance Method: The laboratory stands behind the test area (1) m. Parts of the body except the arms and then back to the starting line out of the area specified for the test and thus the laboratory repeats five consecutive attempts.

:Registration: One score is given for each valid attempt

.scores are calculated for the total of five attempts

.Any error in the implementation try again

The researchers conducted a reconnaissance experiment on (2) players injured in the ankle joint of the sample members on 9/6/2019 at (ten) in the morning in the new Baghdad sports medical laboratory and the aim of the exploratory experiment to identify the following:

- Identify the obstacles and difficulties encountered by the researcher in conducting the main experiment.

- Ensure the safety of devices and tools used and their validity in order to determine the accuracy and correctness of the tests used in the research.

Confirmation of the time of implementation of the rehabilitation curriculum -

Determine the number of exercises and repetitions and indicate the extent and compatibility with the minimum and maximum limits of the injured ankle.

- Suitability of the research tests with the special and general situation of the sample.

.Appropriate time taken for the rehabilitation unit. -

- Introduce the team members to the meals assigned to them and investigate the efficiency of the working team.- knowledge of intensity 100% of each of the rehabilitation exercises prepared by the researcher and each patient until the pain.

The researchers conducted a pre-test on the same research on (Friday) on 12/6/2019 in Baghdad New Medical Sports Laboratory Muscle strength tests and motor range tests. The researcher also conducted handling and damping tests the next day.

After the implementation of the tribal tests, the researchers carried out the vocabulary of special exercises as follows:

The duration of the exercise and the number of units and the time of the training unit and its relevance to the research sample and objectives.

Exercises were applied to the sample members (3) units per week for (6) weeks (18) unit training completely and the days of rehabilitation in the week (Saturday / Monday / Wednesday). The rehabilitation unit time was (30) minutes and the curriculum included repetitions suitable for the severity of the injury.

The researchers prepared a set of exercises that work to develop the flexibility and muscle strength of the muscles surrounding the ankle joint and the skill side based on a number of scientific sources.

Rehabilitation exercises were applied to the research sample on 15/6/2019 until 24/6/2019, as the researchers prepared a set of special exercises taking into account the possibilities and tools that can be used by the injured so that ranges (40% - 60%) in the first two weeks and from (80 - 60%) in the last two weeks after taking the intensity of 100% of the maximum recurrence can be performed by the injured player.

The use of the device T.E.N.S be after a simple warm-up and then the victim will rehabilitate exercises, for the purpose of stimulating blood circulation to the place of injury and surrounding places and the removal of residues resulting from the injury.

The researchers took into consideration that the exercises start from stability and then moving.

The researchers presented the proposed rehabilitation exercises to arbitrators with experience and specialization in the field to explore their opinion in the curriculum in terms of its relevance to the nature of the research and its objectives and the number of training modules and the suitability and duration of the training unit and the content of each unit in order to avoid shortcomings and drawbacks.

The researchers used the following therapeutic methods:

Electrical stimulation device (T.E.N.S)

.Medical wax device

.Ultrasound waves

The post-test was conducted on Friday 26/7/2019 in the same way as the pre-test.

The researchers used the statistical bag (spss) to process the data statistically:

.Arithmetic mean

.standard deviation

.T code for analog samples

RESULT AND DISCUSSION:

Table (1) shows the results of the pretest and posttest tests for the motor ranges of the ankle joint

The arithmetic media and its differences, the standard error and the value (t) calculated for the pre and post tests in the ranges of the research group

Significance of differences	Moral level	Calculated value (t)	standard deviation	Arithmetic Mean	Measurement	measuring unit	Measurements	sequence
moral					Tribal	Degree	Bend angle of the back of the foot	1
moral					After Tribal	Degree	Corner bend toe bottom	2
moral					After Tribal	Degree	Bending angle of the medial side inside	3
moral					After Tribal	Degree	Bending angle of the lateral side outside	4

*Error level (0.05) and degree of freedom (5)

The results presented in Table (2) above showed that the value of (t) calculated for the angle of the back flexion was (5,659) and the level of significance (0.005), which is less than the error level.

The results also showed the value (t) calculated for the angle of the bend of the bottom which was (4,676) and the level of significance (0.009), which is less than the error level.

It also showed the value (t) calculated for the angle of the medial flexion of the foot, which was (3,448) and the level of significance (0.026), which is less than the error level.

It also showed the value (t) calculated for the angle of lateral flexion of the foot, which was (3,028) and a significant level (0.026), which is less than the error level.

This indicates that there were significant differences between the pre and post tests in favor of the post tests because the level of significance of all tests was less than the error level (0.05), which indicates a significant development in the ranges of movement of the ankle joint in the post tests.

The researchers attribute these differences to the fact that the research sample carried out rehabilitation exercises, which were characterized by spontaneity and ease and repetition and mechanism of endurance, which is commensurate with the capabilities of the sample

Kawtar Abdel Aziz points out that the selected exercises must be structured so that we can reap the fruits and achieve the goal of which is the rehabilitation of various body systems, such as joints and muscles (Matar, 124,1993)

The rehabilitation exercises applied by the researcher was effective in the rehabilitation of the injury of the rupture of the ankle joint.

Presentation and analysis of the results of the strength of the ankle muscles and discussed:

Table (2)

Arithmetic media and its differences and deviation of the standard differences and the value (t) calculated and the significance of the differences for the tests before and after the tests in the strength tests for the research group

Significance of differences	Moral level	Calculated value (t)	standard deviation	Arithmetic mean	Measurement	measuring unit	Measurements	sequence
moral					Tribal	Kg	Guo bend the foot back	
					After			
moral					Tribal	Kg	Guo bend the toe	
					After			
moral					Tribal	Kg	Guo medial flexion of the foot	
					After			
moral					Tribal	Kg	Guo brutal flexion of the foot	
					After			

) ***Error level (0.05) and degree of freedom (5

The results shown in Table (3) above showed that the value of (t) calculated for the strength of the back flexion was (8,611) and the level of significance (0,000) which is less than the error level.

The results also showed that the value of (t) calculated for the flexion strength was (9,834) and the level of significance (0.000), which is less than the error level.

It also showed that the value (t) calculated for the flexural strength of the medial foot was (9,349) and the level of significance (0.001), which is less than the level of error.

It also showed that the value (t) calculated for the lateral bending force of the foot was (11,412) and the level of significance (0,000) which is less than the error level.

This indicates that there are significant differences between the pre and post tests in the work force variable on the ankle joint for different directions and in favor of the post tests.

This is because the moral level of all tests was lower than the error level. Muscular contractility activity by increasing the frequency of flexion and tide within specific movement ranges, this means improved ability of these muscle ligaments and their efficiency to exert effort during performance.

The development that happened to the variables under consideration came not by chance, but came as a result of the nature of several special exercises, which included fixed and mobile exercises, which led to the development and growth of strength versus a decrease in the degree of injury, which indicates the harmony of the vocabulary of special exercises.

This is confirmed by (Jeffrey and Falkel, 1986) "that the development of moral strength is tested by fixed and mobile exercises during the qualifying program to achieve better results for the development of strength" (Lkel, 1986)

Presentation of the results of the pre- and post-test skills of the experimental group discussed:

Table (4)

Shows the results of differences between the two groups (experimental - control) in the search variables after

Statistical significance	Its t-value	Calculated value (t)	Post test		Pre-test		measruing unit	Variables	sequence
			standard deviation	Arithmetic mean	standard deviation	Arithmetic mean			
moral							Number	Handling test	
							Number	Suppression test	

) *Below the level of significance (0.05) and the degree of freedom (5

In order to explain the findings of the researchers, it is through our observation to table (4) which shows us the differences and statistical significance between the experimental and control groups. The officer pointed out that the exercises that were working to develop the effectiveness of motor control and sensory nerves of the players through exercises, which often face the difficulty of the performance of the player, especially in the beginning of the first training units, but with the continuation of training and increase the gradual r Exercise play The experimental group was able to adapt the body organs and control the performance and thus reflected positively on the basic skills of football. (Khion, 56,2002)

CONCLUSIONS:

Based on the above, the following conclusions were reached:

- Exercise has a great and effective role in the rehabilitation of sprain of the ankle joint and increase the activity of muscles working on the joint.
- Rehabilitation exercises contributed to increase the range of movement and strength of the muscles working on the ankle joint, which achieved the return of players to the stadium naturally.
- The results showed an improvement in the angular range of the motor and an improvement in the strength of the muscles working on the ankle joint.

ENDORSEMENT:

Based on the conclusions, the research recommends the following:

- Follow rehabilitation exercises in a specialized manner and various means to rehabilitate the injured ankle joint.
- attention to the rehabilitation period, which comes after the period of treatment because of its great importance in the recovery of the injured part and return to the stadiums as soon as possible.
- conducting research and studies similar to the injury of the ankle joint in other games to which an object in the upper and lower sections.

- the need to develop exercises for balance because of the importance of the joints of the body and muscles working on them and be diverse and both feet.

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ANNEX (1)

Qualifying exercises:

.Exercise using balance plate with one man and feet together -

.- Stand with leaving a distance between the feet and load the body weight on the right foot with fixation of 15 - 30 seconds and repeat the exercise on the left foot This exercise works to strengthen the ankle and ligaments surrounding the joint.

- Stand on the edge of the stairs Lower the other foot towards the ground by bending the knee Repeat this exercise 20 times works to strengthen the muscles and ligaments of the ankle and increase equilibrium.

- Stand on the balance sheet or pillow and then stand on the board with both feet and install (30) seconds and repeat 5 times This exercise works to improve the sensory perception of the motor.

- stand in front of the wall and assign your hands on it and then return the left foot back and push the body weight forward 30 seconds and repeat 5 times this exercise to increase flexibility and stretch the muscles.

- Stand on one man and return the ball coming from the colleague controlled by the other man and give handling.

- Stand on one man and jump later on the second man and put down the ball and give handling to the first man colleague.

- Stand on one man and bend forward and touch the ground and kick the ball coming from the colleague in the foot.

.- Stand on one man and the coach behind the player works to disrupt the balance of the player and the player handling work with the wall several times.

- stand on one man and put four signs of the first forward and second back and third on the right and fourth on the left and then the injured player moving the second man in the four directions.

. the coach gives the ball to the player and jump and return the ball head -

- the coach gives the ball to the player and put the ball chest and traced back foot.

.The coach gives the ball to the player and returned within the foot -

- the same exercise with the player ran towards the person who is 10 m running types ran fast ran sideways.

.The player scrambles the side on a rubber ball left and right -

- trot and stand on the rubber ball and hit the ball with the head coming from the coach.
- trot and stand on the rubber hemisphere and hit the ball inside the foot and returned to the coach.
- balance of the foot joint on a hemisphere balance once feet and once with one foot.

. jump on the signs and stand on a rubber ball and stability -

.the player jogging simple and progress on half a rubber ball and stand on one foot with the deployment of hands and re-exercise alternately. -