

The Effect of a Proposed Program of Therapeutic Swimming in Relieving Chronic Lower Back Pain between (35-45) Years Old

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ABSTRACT

The researchers pointed out the clear and influential role that exercise in general and swimming in particular in the treatment and rehabilitation of many diseases and injuries in most of the developed countries of the world, as for the research problem is summarized in the large number of people with back pain and its causes are due to wrong sitting, lack of movement and lack of activity. The athlete that leads to weakness of the muscles surrounding the spine is the cause of back pain, so the researchers decided to study this problem by developing a proposed program for therapeutic swimming to rehabilitate this injury and reduce chronic lower back pain. The study objective to:

1. Preparing a proposed program for therapeutic swimming in relieving chronic lower back pain at ages (35-45) years old.
2. Identify the effect of the proposed program of therapeutic swimming in relieving chronic lower back pain at ages (35-45) years old

The researcher used the experimental method to design a single experimental group of pre and post measurement, and he identified the community and the research sample of patients with chronic lower back pain for the employees of the College of Physical Education and Sports Sciences / University of Karbala, who were (5) injured.

Keywords

Therapeutic swimming, Rehabilitation lower, back pain, swimming, relieving

Introduction

In recent times, the rates of sports injuries and complications have increased, and the human being has become, by his nature, a life of inactivity; and many believe that this may be due to the availability of amenities and dependence on the machine greatly as a result of the tremendous scientific and technological progress in various fields and the entry of modern technologies that led to lack of movement and decline The activity of the vital systems and the delaying of their work have become vulnerable to many diseases and injuries and following the wrong habits when sitting for long periods of time or when lifting and carrying things, high voltage, poor physical fitness and body building.

And considering that spinal injuries in general and lower back pain in particular are among the diseases of the times, as these pains are the most prevalent in the world after influenza, especially since the anatomical structure of the back based on the spine, its full length contains four elements which are the vertebrae (back bone), Superficial joints between

vertebrae, disks between vertebral bodies, supporting muscles and ligaments, and 80 percent of back pain is caused by problems with the muscles, disks, and superficial joints .1

The research problem is summarized in the large number of employees suffering from back pain, as this group falls on the shoulders of using the computer for long hours, sitting wrongly, lack of movement and lack of exercise of sports activity that leads to weakness of the muscles surrounding the column that is the reason for the occurrence of back pain, and through observation and follow-up to centers Physiotherapy has been found that there are many treatment methods, including the use of rehabilitative exercises, the use of infrared rays, massages, etc. However, there is a lack of research in rehabilitation through swimming, so the researchers decided to study this problem by developing a proposed program to rehabilitate this injury and reduce chronic lower back pain.

As a result of the clear and influential role provided by exercise in general and swimming in particular in the treatment and rehabilitation of many diseases and injuries in most of the developed countries of the world, and as a result of what the researchers discussed, the scientific importance of this study is highlighted, as it is a scientific attempt that contributes to knowing the impact of a proposed program for therapeutic swimming in Relieving chronic lower back pain..2

Research objectives

1. Preparing a proposed program for therapeutic swimming in relieving chronic lower back pain at ages (35-45) years old.
2. Identify the effect of the proposed program of therapeutic swimming in relieving chronic lower back pain at ages (35-45) years old

Research hypotheses

1. There is a positive effect of the proposed program of therapeutic swimming in relieving chronic lower back pain between the ages of (35-45) years for the experimental group between pre and posttest.

Research fields

- The human field: People with chronic low back pain for employees of Karbala University, ages (35-45) years.
- Temporal field: For the period from 11/8/2019 to 6/22/2020.
- Spatial field: Al-Hussein (peace be upon him) recreation pool and resort.

Community and research sample

The research community and sample were identified by the employees of the College of Physical Education and Sports Sciences - University of Karbala who suffer from chronic low back pain in an intentional manner, and their number is (5) employees without those with eroded or damaged herniated discs or other conditions, and this is according to the diagnosis

made by the specialist doctor at Al-Hussein Teaching Hospital - Consultant of joint diseases and physiotherapy in the holy city of Karbala..

Homogeneity of the sample

For the purpose of verifying the homogeneity of the research sample and the correctness of the normal distribution, the researcher used the coefficient of torsion in the measurements of age, height and weight as well as in the variable of the pain level. As shown in Table (1) the following:

Table 1. Shows the homogeneity of the sample in the research variables

Variables	Units	Mean	SD	Median	Skewness
Age	Year	39	3.695	38.00	0.243
Length	Cm	176.100	1.524	176.00	0.196
Weight	Kg	88.900	5.228	87.500	0.803
Degree of pain	Degree	3.400	1.516	3.00	0.792

It is clear from Table (1) that all the values of the torsional coefficient of the variables (age, length, weight, degree of pain) range between (± 1), which indicates the homogeneity of the members of the research sample in these variables, the moderation of the normal distribution.

Research methods, devices and tools used in the research

It is the method, method, or mechanism used by the researcher to collect data and evidence and the way to analyze them, or it is the method for implementing the methodology and methodology chosen by the researcher. The type of tools used by the researcher in his research is determined by the number, shape, and shape of the research according to the type of material and the nature of the subject of the research.³

- Arab and foreign sources and references.
- Test and measurement.
- The questionnaire.
- Note.
- Personal interviews.
- Results registration form.
- The kinetic range tape measure.
- Lenovo laptop calculator.
- Sony camera type.
- CASLO electronic clock (2).
- Whistle (2).
- Tape measure length.

- A scale to measure weight.
- Indoor swimming pool.

Field experiment procedures

The degree of pain⁴

The researcher sought to design a questionnaire form to determine the degree of pain for the injured person, as it included a special test to determine the degree of pain experienced by the members of the research sample. It was presented to a group of experts and specialists in the field of general medicine and sports medicine, and they unanimously confirmed the validity of the vocabulary of this form.

The divisions of the kinetic range of the stem bending test were as follows:

- Pain when the torso is folded forward (distance +2 cm), 5 degrees.
- Pain when the torso is folded forward (a distance of +4 cm) is given 4 degrees.
- Pain when the torso is folded forward and a distance (+6 cm) is given 3 degrees.
- Pain when the torso is folded forward and a distance of (+8 cm) is given 2 degrees.
- Pain when the torso is folded forward with a distance (+10 cm) given 1 degree.

Stump Bending Test Characterization⁵

The purpose of the test: to measure the kinematic distance of the torso of the torso in front of the bottom.

Tools: tape measure, registration form

The location of the measuring tape: The person with a standing position stands open with the width of the shoulders as the measuring tape extends a distance from the seventh cervical vertebra to the second sacral vertebra.

Performance description: The person with a standing position is standing open and the feet are shoulder width wide, and upon hearing the instruction of the test operator, the person with the torso bends the torso to the lower front to limit movement and hands touching the ground.

Measurement: an increase in the measurement of the distance in cm (cm) between the seventh cervical vertebra and the sacral second vertebra at full flexion.

Normal range: 10 (cm).

Recording: the value is calculated by reading the increase in the distance determined by the tape measure, as it is given to him two attempts are taken the best.

Scientific foundations of the tests

In order to complete the achievement of the objective and purpose of the test for which it was designed and in order to rely on it and trust its health and honesty, it must meet the conditions and specifications, the most important of which are the scientific transactions of (Validity, consistency and objectivity) in the results.

Validity of the test

The researcher used the validity of the content that is called apparent honesty, as it relies on the opinions of experts and specialists in confirming that the test measures the phenomenon for which it was actually set, and this is confirmed by the experts by (100)% unanimously agreed that the vocabulary of the test under study measures the purpose for which it was set.

Pre-test

The two researchers carried out the pre-measurement on Friday 3/22/2019 AD at eleven in the morning in the hall of the College of Physical Education and Sports Sciences - University of Karbala.

The main experience

The two researchers prepared the proposed program for therapeutic swimming with the aim of rehabilitating chronic lower back pain, as the program was implemented on Saturday 23/3/2019 until Thursday, 5/9/2019, at eleven in the morning, where the research group takes a therapeutic swim and performs the rehabilitation program For the injured in the safety zone in the swimming pool, that is, in an area that is between (1 meter - 1.5 meters) deep. The program is set for groups, repetitions, and breaks in a scientific way, which is a gradation of intensity from easy to difficult, taking into account the lack of pain during the implementation of the rehabilitation program, and if the patient feels pain, the performance must be stopped immediately. These qualifying units are on Saturdays, Mondays and Wednesdays of every week, as the number of actual rehabilitative units reached (21) units. A warm-up is given at the beginning of each rehabilitation unit, which is a light jog exercise outside the pool and the movements of two legs and arms inside the pool for a period of (5 minutes). At the end of the qualifying session, relaxation exercises are given for a period of (3 minutes), then a shower is taken.

Post-test

The two researchers carried out the post measurement on the individuals of the research sample on Friday 10/5/2019 AD, and the researchers were keen to provide the same spatial and temporal conditions and procedures in the pre-measurements.

Statistical methods used

The researcher used the Statistical Package for Social Sciences (SPSS) to process the data.

Results and discussions

Table 2. Shows the arithmetic mean, standard deviations, the calculated (t) value, and the significance level of differences for the research group in the pretest and posttest.

Variables	Groups	Pretest		Posttest		Mean diff.	SD diff.	Calculated value (t)*	Significant level of differences	Indication of differences
		Mean	SD	Mean	SD					
Degree of pain	GRP1	3.400	0.548	1.2	0.447	2.2	0.200	11.000	0.000	Sig.
	GRP2	3.400	0.548	2.2	0.447	1.2	0.200	6.000	0.004	Sig.

*GRP=Group.

The tabular value at the significance level (0.05) and the degree of freedom (4) = 2.776

The results showed that the mean values in the (pain scale) test were lower in the post test than the pre-test, and a significant change occurred between the two tests and in favor of the post because these variables have an inverse value, that is, the lower the arithmetic mean, the better the level, because they deal with Significance levels of differences to obtain a greater range and amount of pain perceptible, and this is what the significance levels indicated. It was less than the significance level (0.05), which indicates the presence of significant differences between the two tests, and this is consistent with what was stated in the first hypothesis of the research.

The researcher attributes the reason for the development in the pain score variable for the experimental research group to the nature of the proposed program prepared by the researcher, as therapeutic swimming has a positive effect in reducing the degree of pain by taking advantage of the buoyancy property in the water that makes the body lightweight and can perform movements of the legs and arms Without pressure on the spine and thus the muscles become larger and stronger and this is what (Lynn Gulberg and Diane L. Elliott, 2002) confirmed, one of the appropriate exercises for your back and joints is swimming ranks first among them as the property of buoyancy in the water prevents pressure on the joints and the column Spine and prevent sudden movements, and buoyancy straps and bras can further relieve stress on your joints when you start swimming or when there is pain in the back and leg joints.⁶

Conclusions

1. The use of therapeutic swimming helped relieve chronic lower back pain.
2. The prepared rehabilitation program helped to rehabilitate this injury.

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