

Clinical Trial Protocol

Iranian Registry of Clinical Trials

20 Jul 2026

Comparison of the effect and the durability of Lumbar Stabilization exercises and Global Postural Re-education exercises on pain, movement control , functional and lower extremity flexibility in men with lumbar movement control dysfunction

Protocol summary

Study aim

Comparison of the effect of 6 weeks of Global Postural Re-education exercises with Lumbar Stabilization Exercises and the duration of the effect of exercises (4 weeks after training) on pain, movement control, function and flexibility of selected lower extremity muscles in men with low back pain and lumbar movement control dysfunction.

Design

Clinical trial with control group, with parallel groups, randomized on 60 men with movement control disorder

Settings and conduct

Participants are asked to attend the Corrective Movements Laboratory of the Faculty of Sports Sciences, University of Tehran, on time. In the pre-test, participants are tested for lumbar movement control by Luomajoki et al and had to have at least two defects in the tests. The range of pain measure by VAS should be 3 to 6 . Universal goniometer is used to measure flexibility of hip muscles and functional tests to assess lower extremity function. After identifying and placing the subjects in the groups, LSEs and GPR exercises was implemented for 6 weeks and 3 sessions per week in the intervention groups . The control group did not perform any specific exercise activities which affect the research results. By the end of the exercise and also after 4 weeks of exercising, all variables in all three groups are measure and the results are analyzed.

Participants/Inclusion and exclusion criteria

Inclusion criteria: having two defects in performing the diagnostic test of movement control disorder, men aged 30 to 40 years, pain range 3-6. Exclusion criteria: having history of surgery in the back region and lower extremities, having functional or congenital kyphosis, lordosis and scoliosis.

Intervention groups

Lumbar Stabilization Exercise(LSE) group- Global Postural Re-education(GPR) exercise group

Main outcome variables

Pain, movement control, functional and lower extremity flexibility

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200817048433N1**

Registration date: **2021-03-05, 1399/12/15**

Registration timing: **prospective**

Last update: **2021-03-05, 1399/12/15**

Update count: **0**

Registration date

2021-03-05, 1399/12/15

Registrant information

Name

Abolfazl Rahmani

Name of organization / entity

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University of Tehran

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-03-25, 1400/01/05

Expected recruitment end date

2021-04-21, 1400/02/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect and the durability of Lumbar Stabilization exercises and Global Postural Re-education exercises on pain, movement control , functional and lower extremity flexibility in men with lumbar movement control dysfunction

Public title

Comparison of the effect and the durability of exercise therapy on pain, movement control , functional and lower extremity flexibility in men with lumbar movement control dysfunction

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Participants should have chronic nonspecific low back pain with movement control dysfunction. Being classified as medium-risk subgroup (Pain range (6 - 3) on the Visual Analogue Scale) Men aged 30 to 40 years

Exclusion criteria:

Samples show pathological symptoms, history of fractures, tumors, surgery or joint diseases of the spine, pelvis and lower limbs. having functional or congenital kyphosis and lordosis (higher than 42 and 52 degrees measured by flexible ruler) having scoliosis (rotation above 5 degrees by scoliometer)

Age

From 30 years old to 40 years old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 60

Randomization (investigator's opinion)

Randomized

Randomization description

First, the subjects are purposefully selected based on the inclusion and exclusion criteria of the research. The selected samples are then randomly divided into three groups (two training groups - control group). Randomization software (The Hat) is used for randomization. In this case, a code is assigned to each sample in the software, then as a random selection from the intervention and control groups, the intervention groups of the first choices come out and the control group is obtained from the next selection in the software.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

National Ethics Committee of Biomedical Research

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Amirabad - Faculty of Physical Education, University of Tehran

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Approval date

2020-10-11, 1399/07/20

Ethics committee reference number

IR.UT.SPORT.REC.1398.053

Health conditions studied**1****Description of health condition studied**

Lumbar movement control dysfunction

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Movement control

Timepoint

Before, 42 days and 28 days after intervention

Method of measurement

Lumajoki movement control tests to diagnose people with lumbar spine control disorder

2**Description**

Pain

Timepoint

Before, 42 days and 28 days after intervention

Method of measurement

Visual Analogue Scale

3

Description

hip muscle flexibility

Timepoint

Before, 42 days and 28 days after intervention

Method of measurement

Goniometer, which uses the goniometer method to assess the flexibility of the muscles of the Rectus Femoris, Hamstring, External rotator, and Tensor fasciae latae on both sides of the body.

4

Description

lower extremity function

Timepoint

Before, 42 days and 28 days after intervention

Method of measurement

In the present study, lower extremity function will be measured by five tests: static balance, Y Test, Triple hop for distance, Six-meter timed hop and a questionnaire on lower extremity function (Lower Extremity Functional Scale) will be used.

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Global Postural Re-education exercises. This method included 8 treatment postures of lying, sitting, and standing which in the present study, five items of supine lying with abducted hands and open thighs angle, supine lying with abducted hands and closed of thighs angle, sitting with adducted hands and closed thighs angle, standing and bending the trunk forward, and standing against the wall and opening the angle of thighs are performed. The duration of each item varies from 5 to 15 minutes. These exercises are done for 6 weeks and three sessions per week.

Category

Rehabilitation

2

Description

Intervention group: Lumbar Stabilization exercises- LSEs are used to create segmental stability as well as improving movement control with qualifying and quantifying of movements. Exercises are performed by the subjects under the direct supervision of the examiner. The approximate time of each exercising session is between 40 and 50 minutes. These exercises are in 6 weeks of 3 sessions. There should be a 48-hour interval between exercising sessions. Exercises included 1.Curl-ups, 2.Dead bug, 3.Bird dog 4.Seated hip flexion, 5.Heel slides, 6.Bridge, 7.Sidebridge, 8.Standing theraband exercises.

Category

Rehabilitation

3

Description

Control group: The control group do not perform any specific exercise activities which affect the research results

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of Physical Education, University of Tehran

Full name of responsible person

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Grant name

0

Grant code / Reference number

0

Is the source of funding the same sponsor

organization/entity?

Yes

Title of funding source

University of Tehran

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding*empty***Country of origin****Type of organization providing the funding**

Academic

Person responsible for general inquiries**Contact****Name of organization / entity**

The University of Tehran

Full name of responsible person

Hooman Minoonejad

Position

PhD, Associate Professor, Department of Health and Sport Medicine, Faculty of Physical Education

Latest degree

Ph.D.

Other areas of specialty/work

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Data on pain , muscle flexibility, movement control and lower extremity function

When the data will become available and for how long

2021 year

To whom data/document is available

researchers

Under which criteria data/document could be used

Comparison of their own research data with the data of this research

From where data/document is obtainable

Corresponding Author

What processes are involved for a request to access data/document

Provide personal information, have a valid email address and appropriate explanations to receive information

Comments