Clinical Trial Protocol
Iranian Registry of Clinical Trials

03 Jun 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 implimented 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

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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 classifiedas medium-risk subgroup (Pain range (6 - 3) on the Visual Analoge 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
Street address
Amirabad - Faculty of Physical Education, University of Tehran
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1417935840
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 fasciaelatae 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 angel, 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

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Sponsors / Funding sources

1

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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

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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