

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

21 Jun 2026

### The effect Movement-Pattern Training on pain, muscle activity response and selected landing kinematic variables in people with Non-specific chronic low back pain

#### Protocol summary

##### Study aim

The effect Movement Pattern Training on pain muscle activity response and selected landing kinematic in men With (CLBP).

##### Design

patients with chronic low back pain were randomized into a treatment (MPT) group or a control (wait-list) group. The MPT program included 6 one-hour supervised sessions and incorporated (1) task-specific training for basic functional tasks and symptom-provoking tasks, and (2) strengthening of hip musculature. With parallel groups, a blind strain was performed on 50 patients. The control (wait-list) group received no treatment.

##### Settings and conduct

subjects performed will 0.30-m single leg landings. Trunk muscle activity will assessed using a 8-lead EMG set-up. Knee kinematics will measured using a Electrogoniometer for extension-flexion, Addaction and Abdaction were calculated of the during landing. The assessments will completed in pre-test and after six weeks.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria included:Low back pain more than three months;Exclusion criteria for group were: spondylolisthesis or spondylolysis, ankylosing spondylitis, moderate to severe spinal osteoarthritis, inflammatory arthritis, physically active, nerve root compression, trunk neuromuscular disease, scoliosis (15° or more), previous spinal surgery, malignant tumour, hypertension. degenerative or inflammatory diseases of the lumbar spine. Subjects were excluded if they had received specialized training in jumping and landing techniques, such as through participation in gymnastics or dance

##### Intervention groups

wxpremental group:The MPT program included 6 one-hour supervised sessions and incorporated (1) task-specific training for basic functional tasks and symptom-provoking tasks, and (2) strengthening of hip

musculature. control group: trunk muscle activity, pain, and kinematics of landing during single leg landing

##### Main outcome variables

Decrease low back pain

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20181024041444N1**

Registration date: **2021-02-16, 1399/11/28**

Registration timing: **retrospective**

Last update: **2021-02-16, 1399/11/28**

Update count: **0**

##### Registration date

2021-02-16, 1399/11/28

##### Registrant information

##### Name

Afshin Orouji

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 45 3335 6401

##### Email address

std\_afshinorouji@khu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-05-20, 1398/02/30

##### Expected recruitment end date

2019-07-06, 1398/04/15

##### Actual recruitment start date

2019-07-21, 1398/04/30  
**Actual recruitment end date**  
2019-09-06, 1398/06/15  
**Trial completion date**  
2019-12-31, 1398/10/10

#### Scientific title

The effect Movement-Pattern Training on pain, muscle activity response and selected landing kinematic variables in people with Non-specific chronic low back pain

#### Public title

The effect Movement-Pattern Training on pain, muscle activity response and selected landing kinematic variables

#### Purpose

Treatment

#### Inclusion/Exclusion criteria

##### Inclusion criteria:

Low back pain for more than 3 months

##### Exclusion criteria:

spondylolisthesis or spondylolysis ankylosing spondylitis moderate to severe spinal osteoarthritis, inflammatory arthritis physically active nerve root compression trunk neuromuscular disease scoliosis (15° or more) previous spinal surgery, malignant tumour hypertension degenerative or inflammatory diseases of the lumbar spine

#### Age

From **8 years** old to **50 years** old

#### Gender

Both

#### Phase

N/A

#### Groups that have been masked

- Data analyser

#### Sample size

Target sample size: **60**

Actual sample size reached: **35**

#### Randomization (investigator's opinion)

Randomized

#### Randomization description

Simple randomization Following the initial screening and collection of labs, all study subjects started therapy within 3 days of baseline measurements. A study investigator, who did not perform any clinical measurements on study subjects, used a coin-flip to randomly assign study subjects to either the experimental control groups.

#### Blinding (investigator's opinion)

Single blinded

#### Blinding description

Data Analyzer were blind before and after the experiment. In a way that did not explain to them which control group and which experimental group

#### Placebo

Not used

#### Assignment

Parallel

#### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of shahid beheshti University

##### Street address

Tehran - Ghods Town (West), between South Flamek and Zarafshan, Iran TV St. - Headquarters of the Ministry of Health, Treatment and Medical Education, Block A, 13th floor

##### City

Tehran

##### Province

Tehran

##### Postal code

1985717443

#### Approval date

2018-06-23, 1397/04/02

#### Ethics committee reference number

<https://ethics.research.ac.ir/IR.SBU.REC.1399.060>

## Health conditions studied

### 1

#### Description of health condition studied

Low back pain

#### ICD-10 code

#### ICD-10 code description

کمردرد

## Primary outcomes

### 1

#### Description

Visual Analogue Scale

#### Timepoint

Before intervention, after 45 days after intervention, 45 days after the intervention

#### Method of measurement

Pain Quebeck Questionnaire

### 2

#### Description

Landing degree

#### Timepoint

Before intervention, after 45 days after intervention, 45 days after the intervention

#### Method of measurement

Electrogiametr

### 3

#### Description

muscle response

### Timepoint

Before intervention, after 45 days after intervention, 45 days after the intervention

### Method of measurement

Electromyography

## Secondary outcomes

### 1

#### Description

Intervention group: The movement pattern exercises are taught in the first week of the correct training of movements in everyday activities, including walking, sitting, standing, walking up and down, and proper daily routine exercises, and from the second to the fourth week of the boost muscle, each The exercises have 5 steps from easy to hard. If you do not have a feeling of pain, you should do the 4 th and 5 th steps using Teraband, which include (20 to 10 repetitions of 2 sets), the second week to strengthen the flexors, Third week strengthen the extensor muscles of the thigh, fourth week strengthen muscle of the abductor, fifth week, strengthen the muscles of the catheter, And the sixth week to strengthen the complexion of the thigh muscles

#### Timepoint

After the test steps for 45 days

#### Method of measurement

Movement pattern training

### 2

#### Description

Without intervention - Based on ethics in research after the end of interventions for such as intervention group

#### Timepoint

For 45 days after the end of the interventions

#### Method of measurement

Movement pattern training

## Intervention groups

### 1

#### Description

Intervention group: All the intervention group underwent a total of 21 supervised training sessions, over a 6-week period The MPT program incorporated 2 primary components, including (1) task-specific training for basic functional tasks 6 supervised in the week 1 For the task-specific training, all patients received standard instructions, to optimize their movement pattern during basic daily tasks, such as ascending stairs and sit to stand. (2): 2-6 weeks: Strengthen thigh muscles.

#### Category

Rehabilitation

### 2

#### Description

Control group: Normal daily activity

### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

University Mohaghegh Ardebil

##### Full name of responsible person

Amirali jafarneghad gero

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## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

The University Of Kharazmi

##### Full name of responsible person

Amir letafatkar

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##### City

Tehran

##### Province

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##### Email

letafatkaramir@yahoo.co

#### Grant name

The university of kharazmi

#### Grant code / Reference number

#### Is the source of funding the same sponsor organization/entity?

Yes

#### Title of funding source

The University Of Kharazmi

#### 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 Mohagheghe Ardabili  
**Full name of responsible person**  
Amirali jafarnehad gero  
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Professor  
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## Person responsible for scientific inquiries

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## Person responsible for updating data

### Contact

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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

Undecided - It is not yet known if there will be a plan to make this available

### Analytic Code

No - There is not a plan to make this available

### Data Dictionary

No - There is not a plan to make this available

### Title and more details about the data/document

Intervention program protocol file and data analysis information through publication in dissertation or article writing

### When the data will become available and for how long

Access period starts 6 months after the results are published

### To whom data/document is available

The research team of this study and other scientific and clinical researchers who do research for the benefit of these patients

### Under which criteria data/document could be used

Researchers who intend to use data in writing a meta-analysis or systematic article

### From where data/document is obtainable

afshinorouji@gmail.com

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

Their request will be answered after the approval of the

academic institution

**Comments**