Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 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 Electrogonimeter 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

Electrogoniametr

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 dailytasks, 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

Street address

Univresity Blvd

City

Ardebil

Province

Ardabil

Postal code

5613393595

Phone

+98 45 3150 5649

Email

amiralijafarnezhad@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University Of Kharazmi

Full name of responsible person

Amir letafatkar

Street address

Mirdamad Blvd

City

Tehran

Province

Tehran

Postal code

5616693595

Phone

+98 21 6854 5565

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 jafarneghad gero
Position
Professor
Latest degree
Ph.D.
Other areas of specialty/work
Sports Biomechanics
Street address
university Blvd
City
Ardabil
Province
Ardabil
Postal code
5616693595
Phone
+98 45 3335 6401
Email
amiralijafarnezhad@gmail.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
The University of Mohagheghe Ardabili
Full name of responsible person
Amiralijafarneghadgero
Position
professor
Latest degree
Ph.D.
Other areas of specialty/work
Sports Biomechanics
Street address
University Blvd
City
Ardabil
Province
Ardabil
Postal code
5616693595
Phone
+98 45 3335 6401
Email
amiralijafarnezhad@gmail.com
Web page address
https://fa.www.irct.ir

Person responsible for updating data

Contact
Name of organization / entity
The university of Mohagheghe Ardabili
Full name of responsible person
Amirali jafarneghadgero
Position
professor
Latest degree
Ph.D.
Other areas of specialty/work
Sports Biomechanics
Street address
University Blvd
City
Ardabil
Province
Ardabil
Postal code
5616693595
Phone
+98 45 3335 6401
Email
amiralijafarnezhad@gmail.com
Web page address
https://fa.irct.ir

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
afshiinorouji@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