Clinical Trial Protocol
Iranian Registry of Clinical Trials

11 Jun 2026

The effect of 8-week flexibility and movement learning interventions on pain and disability and proprioception and two-dimensional kinematics of athletes with non-specific chronic back pain

Protocol summary

Study aim
investigating the effect of 8-week flexibility and movement learning interventions on pain and disability and proprioception and two-dimensional kinematics of athletes with non-specific chronic back pain

Design
The clinical trial with a control group, single blinde, randomized with parallel groups will be conducted on 36 people. The participants will be randomly placed in one of the 2 intervention groups.

Settings and conduct
In this study, rowers with chronic back pain will be examined in the Azadi Lake gym located in Azadi Stadium. Athletes are selected based on the entry criteria and are examined and diagnosed by a doctor. Then, people are included in the study and if their consent is obtained by completing a written consent form, they are examined.

Participants/Inclusion and exclusion criteria
Participation in the program of rehabilitation exercises and therapeutic exercises in the last year Serious injuries or poor health that can prevent patients from performing an exercise program Imaging findings such as osteoarthritis (grade 3-4)

Intervention groups
The first intervention group: receiving the program of flexibility exercises and movement control exercises for 8 weeks The second intervention group: receiving the motor control exercise program Control group: Without intervention

Main outcome variables
Pain and disability because of non specific chronic low back pain

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20220715055473N1**
Registration date: **2022-12-09, 1401/09/18**
Registration timing: **registered_while_recruiting**

Last update: **2022-12-09, 1401/09/18**
Update count: **0**

Registration date
2022-12-09, 1401/09/18

Registrant information

Name
Mahsa Ghavidel

Name of organization / entity
Kharazmi University

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-12-01, 1401/09/10

Expected recruitment end date
2023-01-31, 1401/11/11

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

The effect of 8-week flexibility and movement learning interventions on pain and disability and proprioception and two-dimensional kinematics of athletes with non-specific chronic back pain

Public title
The effect of flexibility exercises and movement control on athletes with chronic back pain
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
Normal body mass index (18.5-24.9) athletes who have competed at the club, national and international levels Athletes aged between 18-50 years
Exclusion criteria:
Participation in the program of rehabilitation exercises and therapeutic exercises in the last year Serious injuries or poor health conditions that can prevent patients from performing an exercise program Imaging findings such as osteoarthritis (grade 3-4)
Age
From **18 years** old to **50 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **36**
Randomization (investigator's opinion)
Randomized
Randomization description
Simple Random Sampling, , patients will be divided into two intervention groups and one control group through the method of sealed envelope after selection and informed consent to participate in the study. Numbers are written inside the envelope, which the subjects do not know about. Based on the number of 36 subjects, 12 people will be in the first experimental group, 12 people will be in the second experimental group, and 12 people will be in the control group.
Blinding (investigator's opinion)
Single blinded
Blinding description
in this study, the outcome assessor will be blinded of the process of randomization and division of individuals into two experimental groups and control group. Another researcher(blinded to the baseline assessment) will proceed with training according to the group assignment. A blinded outcome assessor who does not know the hypothesis and study methods, measures outcome at baseline and 8 weeks post intervention.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Sport Sciences Research Institute
Street address
Ministry of Health and Medical Education, Simaye Iran Street, Shahrak-e Qods, Tehran, Iran.
City
Tehran
Province
Tehran
Postal code
021 8145 0000
Approval date
2022-07-20, 1401/04/29
Ethics committee reference number
IR.SSRC.REC.1401.053

Health conditions studied

1

Description of health condition studied
Nonspecific chronic low back pain
ICD-10 code
M54.5
ICD-10 code description
Low back pain

Primary outcomes

1

Description
non specific chronic low back pain
Timepoint
8 weeks before and after the intervention
Method of measurement
pain rating scale(Visual Analogue Scale)

Secondary outcomes

1

Description
2 dimensional kinematics
Timepoint
8 weeks before and after the intervention
Method of measurement
Assessment of the movement of rising up from chair by using kinovea software

2

Description
proprioception
Timepoint
8 weeks before and after the intervention
Method of measurement
the lumbar angle active reconstruction test

3

Description
Hamstring flexibility
Timepoint
8 weeks before and after the intervention
Method of measurement
Using passive knee extension test

4

Description
movement control
Timepoint
8 weeks before and after the intervention
Method of measurement
movement control test(luomajoki test)

Intervention groups

1

Description
The first intervention group: the combination of flexibility exercises and movement control exercises. An 8-week program of exercises (two 50-minute sessions per week) will be implemented. Treatment sessions will be at least 48 hours apart. Stretching exercises will consist of 3 sets of each exercise and the position will be maintained for 20 seconds with 30 seconds rest between sets and exercises.Stretching exercises will be static, which includes unilateral stretching exercises
Category
Rehabilitation

2

Description
The second intervention group: only movement control exercises, 2 sessions per week.Only movement control exercises will be performed 2 sessions per week. An 8-week program of back stabilization exercises, as well as endurance-resistance exercises for the back muscles will be performed. In addition to back stability exercises, overload exercises such as sit-ups, side planks, and hip bridges will be performed.The number of times the movement is performed will be different depending on the type of movement and in some movements, the movement will be performed isometrically.
Category
Rehabilitation

3

Description
Control group: will not receive any intervention
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Azadi Sport Complex
Full name of responsible person
Mahsa Ghavidel
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Sponsors / Funding sources

1

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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
This study was conducted by researchers and no institutional funding was received.
Proportion provided by this source
100

Public or private sector
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Persons

Person responsible for general inquiries

Contact
Name of organization / entity
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Associate Professor
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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
Undecided - It is not yet known if there will be a plan to make this available
Data Dictionary
Undecided - It is not yet known if there will be a plan to make this available
Title and more details about the data/document
Only data related to demographics and outcomes are shared.
When the data will become available and for how long
After publishing the article/articles extracted from the study
To whom data/document is available
The data can be displayed and shared upon the reasonable request of Iran's clinical trial registration center, journals and academic people/researchers who are conducting research and scientific activities in this field.
Under which criteria data/document could be used
Data analysis and the use of documents can only be

done under the condition that their results are mentioned in systematic review articles conducted by academic researchers and authors. The necessary conditions for sending data and documents include: 1. Sending an email (preferably with an address Valid academic addresses) to one of the researchers of the study 2. A brief and logical explanation regarding the use of data or documents 3. Ensuring the protocol registration of systematic review studies that have requested access to data or documents.

From where data/document is obtainable

Through a request from the researchers of the study Mahsa ghavidel mahsaghavidel.mg@gmail.com Dr. Malihe Hadadnezhad - m.hadadnezhad@yahoo.com Dr. Raghad Memar - m_raghad@yahoo.com

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

The applicant can request details from the researchers using the message sent by email within 7 to 10 days.

Comments