Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The Effect of 6 weeks of Combined Rehabilitation Program (electrical stimulation and isometric contraction) on pain and function in athletes with knee osteoarthritis

Protocol summary

Study aim
The Effect of 6 weeks of Combined Rehabilitation Program (electrical stimulation and isometric contraction) on pain and function in athletes with knee osteoarthritis

Design
The clinical trial consisted of three experimental group and a control group, with parallel and random groups. The Random allocation software was used for randomization

Settings and conduct
The present study is a quasi-experimental research with a pretest-posttest design with three experimental groups and one control group. 32 Athletes with Knee Osteoarthritis are randomly divided into four test and control groups. Pain and performance variables are measured before and after exercise.

Participants/Inclusion and exclusion criteria
Inclusion criteria: having mild to moderate primary osteoarthritis, male gender, not having any arthroscopic surgery; Exclusion criteria: taking painkillers and anti-inflammatory drugs, participating in any exercise program at least six months before the research

Intervention groups
The first intervention group includes athletes with knee osteoarthritis who receive electrical stimulation intervention. The second intervention group includes athletes with knee osteoarthritis who receive isometric contraction intervention. The third intervention group includes athletes with osteoarthritis of the knee who receive the intervention of electrical stimulation and isometric contraction. The control group includes athletes with osteoarthritis of the knee who do not receive the intervention.

Main outcome variables
Pain and Performance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20200107046035N10**
Registration date: **2022-06-28, 1401/04/07**
Registration timing: **prospective**

Last update: **2022-06-28, 1401/04/07**
Update count: **0**

Registration date
2022-06-28, 1401/04/07

Registrant information

Name
Hossein Shahrokhi

Name of organization / entity
Hakim Sabzevari University

Country
Iran (Islamic Republic of)

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+98 51 4401 2756

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-07-23, 1401/05/01

Expected recruitment end date
2022-08-21, 1401/05/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date

empty

Scientific title
The Effect of 6 weeks of Combined Rehabilitation Program (electrical stimulation and isometric contraction) on pain and function in athletes with knee osteoarthritis

Public title
The Effect of Combined Rehabilitation Program on pain and function in athletes with knee osteoarthritis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Mild to moderate primary osteoarthritis Male Gender Do not have any arthroscopic surgery Lack of musculoskeletal disease in other parts of the body
Exclusion criteria:
Taking painkillers and inflammation Arthritis Participate in any exercise program at least six months prior to research
Age
From **45 years** old to **50 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **32**
Randomization (investigator's opinion)
Randomized
Randomization description
The simple Randomization Method was used to assign individuals to 4 groups that in this method, Random Allocation Software was used to create a random sequence. Then, in order not to determine which group the individuals will be assigned to before dividing them into two groups, or in other words, allocation concealment, the central randomization method was used.
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
Sport sciences research institute
Street address
No. 3, 5th Alley, Miremad Street, Motahhari Street, Tehran, Iran.
City
Tehran
Province
Tehran
Postal code
1587958711
Approval date
2022-04-20, 1401/01/31
Ethics committee reference number
IR.SSRC.REC.1401.010

Health conditions studied

1

Description of health condition studied
Knee Osteoarthritis
ICD-10 code
M17
ICD-10 code description
Osteoarthritis of knee

Primary outcomes

1

Description
Pain
Timepoint
At the beginning of the study (before the start of the intervention) and after 6 weeks of intervention
Method of measurement
Visual Analogue Scale

2

Description
Function
Timepoint
At the beginning of the study (before the start of the intervention) and after 6 weeks of intervention
Method of measurement
6-min walk test and Stair climb and descent and 40m (4x10m) Fast Paced Walk Test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Electrical stimulation, for 6 weeks, 3 sessions per week, 2 hour per session
Category
Treatment - Other

2

Description
Intervention group: Isometric contraction, for 6 weeks, 3 sessions per week, 2 hour per session
Category
Treatment - Other

3

Description
Intervention group: Electrical stimulation and Isometric contraction, for 6 weeks, 3 sessions per week, 2 hour per session
Category
Treatment - Other

4

Description
Control group: Without any training and just doing normal daily activities
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Shafagh University
Full name of responsible person
Seyed Arman Nikoo
Street address
20th Mordab Ave, Nashtaroud
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4683165363
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shafagh University
Full name of responsible person
Mohammad Fallahmohamadi
Street address
20th Mordab Ave
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Mazandaran
Postal code
4683165363
Phone
+98 11 5426 6957
Email
info@shafagh.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shafagh University
Proportion provided by this source
10
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
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
Hakim Sabzevari University
Full name of responsible person
Hossein Shahrokhi
Position
Assistant professor
Latest degree
Ph.D.
Other areas of specialty/work
Corrective Exercise
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Tohid Shahr - Sabzevar - Iran
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Person responsible for updating data

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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

All potential data can be shared after people have not been identified

When the data will become available and for how long

Start the access period one year after printing the results

To whom data/document is available

Data will be available to academic and scientific researchers

Under which criteria data/document could be used

Any kind of functional analysis on the submitted data is allowed

From where data/document is obtainable

by Email: h.shahrokhi@hsu.ac.ir

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

by Email: h.shahrokhi@hsu.ac.ir and the reason for using the documents

Comments