Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The Effect of Hip Abductor Exercises on Pain, Function and Balance Parameters in Patients with Knee Osteoarthritis

Protocol summary

Study aim
Determining the effect of hip abductor exercises on pain, function and balance parameters in patients with knee osteoarthritis

Design
The study is a randomized controlled double-blind clinical trial. In this study, patients will divide into two groups of intervention and control by permuted block stratified randomization.

Settings and conduct
Razmjo Moghadam Physiotherapy Clinic Zahedan Islamic Republic of Iran

Participants/Inclusion and exclusion criteria
Inclusion criteria: age between 40 to 70 years; patients with osteoarthritis of the knee with chronic knee pain for 6 months or more; having grade 2 or 3 osteoarthritis of the knee according to the Kellgren-Lawrence grade; no history of knee surgery and no history of intra-articular injection and physiotherapy in the last 6 months; no more severe radiographic signs of the knee joint in the lateral side than in the medial side; no history of osteoarthritis or trauma or pathological lesion in the Hip joint ;no history of musculoskeletal, articular, neurological disorders affecting balance. Exclusion criteria: receiving other therapeutic interventions during the study, unwillingness to continue treatment, exacerbation of the patient's symptoms.

Intervention groups
Control group: Routine physiotherapy treatments, general exercises, progressive quadriceps strengthening program Intervention group: Routine physiotherapy treatments, general exercises, progressive quadriceps and hip abductor muscles

Main outcome variables
Pain; function; balance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210529051427N1**
Registration date: **2021-07-25, 1400/05/03**
Registration timing: **registered_while_recruiting**

Last update: **2021-07-25, 1400/05/03**
Update count: **0**

Registration date
2021-07-25, 1400/05/03

Registrant information

Name
Mahla Rakhshani

Name of organization / entity

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-07-20, 1400/04/29

Expected recruitment end date
2021-12-20, 1400/09/29

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The Effect of Hip Abductor Exercises on Pain, Function and Balance Parameters in Patients with Knee Osteoarthritis

Public title
The Effect of Hip Abductor Exercises on Pain, Function and Balance Parameters in Patients with Knee Osteoarthritis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Age between 40 to 70 years Patients with osteoarthritis of the knee with chronic knee pain for 6 months or more Having grade 2 or 3 osteoarthritis of the knee according to the Kellgren-Lawrence grade No history of knee surgery and no history of intra-articular injection and physiotherapy in the last 6 months No more severe radiographic signs of the knee joint in the lateral side than in the medial side No osteoarthritis or trauma or pathological lesion in the Hip joint No history of musculoskeletal, articular, neurological disorders affecting balance
Exclusion criteria:
Exclusion criteria: receiving other therapeutic interventions during the study, unwillingness to continue treatment, exacerbation of the patient's symptoms
Age
From **40 years** old to **70 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size
Target sample size: **36**
Randomization (investigator's opinion)
Randomized
Randomization description
Random allocation of patients to the two groups is done by permuted block stratified randomization. First, eligible patients are classified according to age, sex and BMI, respectively. Then, based on 4 blocks (consisting of two groups A (intervention) and B (control) and two replicates for each), which were randomly selected from all possible modes of permutations; They are assigned to the desired group. These blocks were created using R statistical software version 4.0.2.
Blinding (investigator's opinion)
Double blinded
Blinding description
Patients with osteoarthritis of the knee and responsible for data collection and statistical data analysis are kept blind
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Zahedan University of Medical Sciences
Street address
Deputy of Research, Zahedan University of Medical Sciences, Jannat Blvd., Dr. Hesabi Sq
City
Zahedan
Province
Sistan-va-Balouchestan
Postal code
9816743463
Approval date
2021-05-02, 1400/02/12
Ethics committee reference number
IR.ZAUMS.REC.1400.078

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
Balance
Timepoint
Before and after the period of the interventions
Method of measurement
Biodex system

Secondary outcomes

1

Description
Pain
Timepoint
Before and after the period of the interventions
Method of measurement
Visual Analog Scale (VAS) questionnaire

2

Description

Function

Timepoint

Before and after the period of the interventions

Method of measurement

WOMAC questionnaire

Intervention groups

1

Description

Control group: Routine physiotherapy treatments (TENS and hot pack for 20 minutes, ultrasound for 5 minutes), general exercises (passive rectus femoris stretching, hamstrings, iliotibial band, cuff muscles and posterior capsule of the knee joint in 3 sets with 30 seconds holding and 15 second break, a progressive quadriceps strengthening program with three sessions per week for 6 consecutive weeks

Category

Rehabilitation

2

Description

Intervention group: Routine physiotherapy treatments, general exercises, progressive quadriceps and hip abductor muscles strengthening program with three sessions per week for 6 consecutive weeks

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Razmjo Moghadam Physiotherapy Clinic

Full name of responsible person

Dr. Ahmadreza Askari Ashtiani

Street address

Razmjo Moghadam Laboratory, Ayatollah Kafami St.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Dr. Noor mohammad Bakhshani

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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

Vice Chancellor for Research, Zahedan University of Medical Sciences

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

Zahedan University of Medical Sciences

Full name of responsible person

Dr. Ahmadreza Askari Ashtiani

Position

Ph.D in Physiotherapy

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Position
Ph.D in Physiotherapy

Latest degree
Ph.D.

Other areas of specialty/work
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Position
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

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

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

Informed Consent Form
Undecided - It is not yet known if there will be 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
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
All of the data can be shared.

When the data will become available and for how long
One year after article publication

To whom data/document is available
Researchers working in academic and scientific institutions

Under which criteria data/document could be used
Researchers and specialists in this field It must be ensured that data will not be misused

From where data/document is obtainable
ahmadaskary@gmail.com rakhshanim500@gmail.com

What processes are involved for a request to access data/document
The applicant must and clearly and concisely state his / her intention to apply. He will receive the data as soon as possible after verification

Comments