Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The Effect of Mulligan Mobilization on Static and Dynamic Balance in Patients with Moderate to Severe Knee Osteoarthritis.

Protocol summary

Study aim
The Effect of Mulligan Mobilization Technique with Conventional Physical Therapy on Balance in Patients with Moderate to Severe Knee Osteoarthritis

Design
Randomized Controlled Trial , Two Groups of treatment and Control with a Sample Size of 20 in each Group , Factorial Groups , double blind , Simple Randomised

Settings and conduct
This Study will be done in Physiotherapy Clinic of Isfahan University of Medical Sciences on Patients with Knee Osteoarthritis in Two Groups of Treatment and Control.Treatment of Treatment Group is Conventional Physical Therapy and Mulligan Mobilization and Control Group is Conventional Physical Therapy. Double Blind Study; Participates and Investigator of Inclusion and Exclusion Criteria and Patient Balance.

Participants/Inclusion and exclusion criteria
Inclusion Criteria; Moderate to Severe Unilateral Knee Osteoarthritis; Painful often; Independent in Standing and Walking Exclusion Criteria; any Active Knee Infection; Knee Surgery and Steroid Injection; any Musculoskeletal Disorder in Lower Limb and Low Back; any Orthopedic and Neurology and Rheumatoid Impairment Affected Balance; Sensory Loss;Uncorrected Visual and Vestibular Impairment

Intervention groups
Treatment Group, Conventional Physical Therapy with Mulligan Mobilization Control Group, Conventional Physical Therapy

Main outcome variables
Balance Improvement Prevention and Decrease Falling in Patients with Knee Osteoarthritis Decrease Pain Increase knee Range of Motion

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20181009041297N1**
Registration date: **2018-11-24, 1397/09/03**
Registration timing: **registered_while_recruiting**

Last update: **2018-11-24, 1397/09/03**
Update count: **0**

Registration date
2018-11-24, 1397/09/03

Registrant information

Name
Maryam Adeli

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 31 3376 9071

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m.adely@rehab.mui.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-06-22, 1397/04/01

Expected recruitment end date
2019-06-22, 1398/04/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The Effect of Mulligan Mobilization on Static and Dynamic Balance in Patients with Moderate to Severe Knee Osteoarthritis.

Public title
Effect of Mulligan Mobilization Technique on Balance in Knee Osteoarthritis
Purpose
Diagnostic
Inclusion/Exclusion criteria
Inclusion criteria:
Moderate to Severe Knee Osteoarthritis Independent in Walking and Standing Knee Pain on Most Days of the Previous Month Unilateral Knee Pain
Exclusion criteria:
Active Infection in Knee Joint Patellofemoral Osteoarthritis Any Knee Surgery Any Musculoskeletal Disorder in Lower Limb and Low Back Severe Psychology Disorders Rheumatoid Arthritis Uncorrected Visual and Vestibular Impairment Tendon and Ligament Injuries Steroid Injection(3 month ago) Any Sensory Loss in Feet(diabetic) Unwilling to Participate Any orthopedic and Neurology Impairment Affected on Balance Fixed Knee Range of Motion
Age
From **40 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Investigator
- Outcome assessor
- Data analyser

Sample size
Target sample size: **40**
Randomization (investigator's opinion)
Randomized
Randomization description
In this Study, Patients will Divide to two Groups Control and Treatment , through Simple Random Sampling by Flipping a Coin to Decide which Patient Goes to Control or Treatment Groups? in this way if one Group is Completed Quickly ,other Patients Go to another Group
Blinding (investigator's opinion)
Double blinded
Blinding description
In this Study, Participants are Aware of the Study's Research and the Type of Groups and Treatment, but They do not know what they are Receiving. Investigator of Inclusion and Exclusion Criteria and Balance Tests Before and After the Treatment and Analyzer of Data are also Blind
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Isfahan University of Medical Science
Street address
Shahid Mirza Mohammad Barati Alley , Navab Safavi Avenue
City
Dorche
Province
Isfehan
Postal code
8431833531
Approval date
2018-06-10, 1397/03/20
Ethics committee reference number
IR.MUI.REC.1397.30135

Health conditions studied

1

Description of health condition studied
Knee Osteoarthritis
ICD-10 code
M17.1
ICD-10 code description
Other primary gonarthrosis

Primary outcomes

1

Description
Static and Dynamic Balance
Timepoint
Before and after treatment(Ten sessions)
Method of measurement
Duration of Maintaining Static Balance through One Leg Stance Test and Duration of Dynamic Balance through Time up and go Test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Conventional physical Therapy(pain relief and knee muscles strengthening exercises) and Mulligan Mobilization(a treatment technique)
Category
Diagnosis

2

Description
Control group: Conventional physical Therapy(pain relief and knee muscles strengthening exercises)
Category
Diagnosis

Recruitment centers

1

Recruitment center
Name of recruitment center
Isfahan Alzahra Hospital
Full name of responsible person
Maryam Adeli
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Esfahan University of Medical Sciences
Full name of responsible person
Shaghayegh Hagh joy Javanmard
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Isfahan University of Medical Science, Hezar jarib Avenue
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research@mui.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Esfahan 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
Esfahan University of Medical Sciences
Full name of responsible person
Maryam Adeli
Position
Physiotherapy Student
Latest degree
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Person responsible for updating data

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Position
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Latest degree
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Other areas of specialty/work
Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be 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