

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Measurement of hip muscle strength and their effects on pain and function in middle aged women in knee osteoarthritis: randomized control trial

Protocol summary

Study aim

To measure the strength of hip muscle and their effect on pain and function in middle aged women with knee OA.

Design

A double-blind, randomized controlled trial

Settings and conduct

Physical therapy department of WAPDA Teaching Hospital Complex Lahore, and Pakistan Society for the Rehabilitation of the Disabled, Lahore, Punjab, Pakistan

Participants/Inclusion and exclusion criteria

Inclusion criteria : Female only Aged 40 to 60 year, Pain intensity is not more than 8 on Visual analog scale (VAS), Pain intensity is not LESS than 2 on Visual analog scale (VAS), Unilateral knee osteoarthritis, Grade II to III by Kellgren- Lawrence scale of knee osteoarthritis.

Exclusion criteria: Male, Aged more than 61 and less than 39 year, Pain intensity is more than 8 and LESS than 2 on Visual analog scale (VAS), Bilateral knee osteoarthritis, Grade I to IV by Kellgren- Lawrence scale of knee osteoarthritis, Previous surgical/ steroid injection history with in last 6 months, Bony abnormalities, including bone fracture, osteochondritis, bipartite patella of knee.

Intervention groups

Intervention groups received hip strengthening exercises with knee strengthening exercises for 8 week, 4 session per week total 32 session each session last for 40 min.

Main outcome variables

Muscle Strength, Pain and Function

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230124057196N3**

Registration date: **2024-09-26, 1403/07/05**

Registration timing: **registered_while_recruiting**

Last update: **2024-09-26, 1403/07/05**

Update count: **0**

Registration date

2024-09-26, 1403/07/05

Registrant information

Name

mariam umer hayat

Name of organization / entity

The University of Lahore

Country

Pakistan

Phone

+92 321 4437350

Email address

mariamumerhayat@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-07-02, 1403/04/12

Expected recruitment end date

2024-12-02, 1403/09/12

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Measurement of hip muscle strength and their effects on pain and function in middle aged women in knee osteoarthritis: randomized control trial

Public title

Measurement of hip muscle strength and their effects on pain and function in middle aged women in knee osteoarthritis: randomized control trial

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Female only Aged 40 to 60 year Pain intensity is not more than 8 on Visual analog scale (VAS) Pain intensity is not LESS than 2 on Visual analog scale (VAS) Unilateral knee osteoarthritis Grade II to III by Kellgren- Lawrence scale of knee osteoarthritis

Exclusion criteria:

Male Aged more than 61 and less than 39 year Pain intensity is more than 8 and than 2 on Visual analog scale (VAS) Bilateral knee osteoarthritis Grade I to IV by Kellgren- Lawrence scale of knee osteoarthritis Previous surgical/ steroid injection history with in last 6 months Bony abnormalities, including bone fracture, osteochondritis, bipartite patella of knee

Age

From **40 years** old to **60 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Data analyser

Sample size

Target sample size: **84**

Randomization (investigator's opinion)

Randomized

Randomization description

The participant of study was randomly allocated in experimental and control group by lottery method after recruitment of sample participants

Blinding (investigator's opinion)

Double blinded

Blinding description

Participant, Care provider and Data analyzer did not know which participant belonged to which group

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

THE UNIVERSITY OF LAHORE

Street address

1-Km Defense Road, near Bhuptian Chowk, Lahore, Punjab

City

LAHORE

Postal code

54000

Approval date

2024-07-18, 1403/04/28

Ethics committee reference number

REC NO 268/24

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

Determined the strength of hip and knee muscles in knee osteoarthritis

Timepoint

Measurement of primary outcome before the intervention baseline at 0 week, in mid after 4th week and after 8th week at the end intervention

Method of measurement

Manual Muscle Testing (MMT)

2

Description

PAIN

Timepoint

Measurement of primary outcome before the intervention baseline at 0 week, in mid after 4th week and after 8th week at the end intervention

Method of measurement

Visual analogue scale (VAS) and pain by subscale of Knee Injury and Osteoarthritis Outcome Score(KOOS)

Secondary outcomes

1

Description

FUNCTION

Timepoint

Measurement of Secondary outcome before the intervention baseline at 0 week, in mid after 4th week and after 8th week at the end intervention

Method of measurement

Function by subscale of Knee Injury and Osteoarthritis

Outcome Score(KOOS)

Intervention groups

1

Description

Intervention group: Experimental group received hip and knee strengthening exercises for 8th week, 4 session per week on alternative days, frequency of exercise was 3 set with 10 repetition in each set, session completed in 40 min, 2 rest, Thera-Band with medium resistance to heavy resistance was used . Superficial heat by electric heating pad and TENS is used for 10 min as placebo before exercise.

Category

Rehabilitation

2

Description

Control group: received knee strengthening exercises for 8th week, 4 session per week on alternative days, frequency of exercise was 3 set with 10 repetition in each set, session completed in 40 min, 2 rest, Thera-Band with medium resistance to heavy resistance was used. Superficial heat by electric heating pad and TENS is used for 10 min as placebo before exercise.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

WAPDA TEACHING HOSPITAL COMPLEX LAHORE

Full name of responsible person

Abid Javaid

Street address

210-Ferozpur Road Lahore

City

Lahore

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Phone

+92 42 37564705

Fax

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2

Recruitment center

Name of recruitment center

Pakistan Society for the Rehabilitation of the Disabled

Full name of responsible person

Hassan Javed

Street address

111 Lahore – Kasur Rd, Lahore,

City

Lahore

Postal code

54000

Phone

+92 42 37423455

Email

info@transparenthands.org

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Lahore

Full name of responsible person

Mariam Umer Hayat

Street address

No 103 L DHA Raber Lahore Pakistan

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Postal code

54000

Phone

+92 321 4437350

Email

mariamumerhayat@gmail.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

No

Title of funding source

SELF

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

Other

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Lahore

Full name of responsible person

Mariam Umer hayat

Position

M.phill

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Fax**Email**

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

Mobility Quest

Full name of responsible person

Mariam Umer Hayat

Position

Consultant

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data**Contact****Name of organization / entity**

Mobility Quest

Full name of responsible person

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Position

Consultant

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Postal code

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Email

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not 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