Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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, biparitite 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 2on 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, biparitite 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 od 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
Postal code
54000
Phone
+92 42 37564705
Fax
+92 42 35232285
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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,
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Lahore
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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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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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Person responsible for updating data

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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