Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Combined Effects of Retro Walking Exercises and Clamshell Exercises on Pain, Strength and Balance among Osteoarthritis Patients

Protocol summary

Study aim
To compare the combined effects of Retro walking exercises and Clamshell exercises on pain, strength and balance among Osteoarthritic patients.

Design
Single blinded, Parallel, Randomized clinical trial

Settings and conduct
This study will be conducted at Arif Memorial Teaching Hospital

Participants/Inclusion and exclusion criteria
Inclusion criteria: Patients who will above 40 years old and diagnosed with osteoarthritis or have previous knee pain will be included in this study. Exclusion criteria: Patients diagnosed with rheumatoid arthritis, having history of ankle or knee surgery or intra-articular injection in knee joint in past 1 year or having dizziness or balance problems and pregnant women will excluded from this study

Intervention groups
There will be two intervention groups. Group A will be treated with clamshell exercise and group B will be treated with retro walking exercises and clamshell exercises

Main outcome variables
1. Numeric Pain Rating Scale will be used for knee pain intensity 2. Berg Balance Scale will be used to check balance while 3. Sit To Stand Test will be used to measure glutei strength

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20221205056713N3**
Registration date: **2024-07-26, 1403/05/05**
Registration timing: **registered_while_recruiting**
Last update: **2024-07-26, 1403/05/05**
Update count: **0**

Registration date
2024-07-26, 1403/05/05

Registrant information

Name
hafiza Nida Rasheed

Name of organization / entity
Rashid Latif Medical college, Lahore

Country
Pakistan

Phone
+92 336 4535979

Email address
naddia.rasheed20@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-07-25, 1403/05/04

Expected recruitment end date
2024-12-27, 1403/10/07

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Combined Effects of Retro Walking Exercises and Clamshell Exercises on Pain, Strength and Balance among Osteoarthritis Patients

Public title
Effects of retro walking exercises and clamshell exercises in osteoarthritis

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Both genders male and female age above 40 years . Patients diagnosed with OA and confirmed by radiographic imaging History of knee pain in past 30 days

Exclusion criteria:

Patients diagnosed with rheumatoid arthritis Having history of ankle or knee surgery History of intra-articular injection in knee joint in past 1 year Patients having dizziness or balance problems Pregnant females

Age

From **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **34**

Randomization (investigator's opinion)

Randomized

Randomization description

Participants will randomly divided in two groups (group A group B) by using lottery method. Both groups will be given conventional physical therapy treatment. Group A patients will be treated with the retro walking exercises and Group B patients will be treated with retro walking and clamshell exercises.

Blinding (investigator's opinion)

Single blinded

Blinding description

Subjects in two groups will blinded from other treatment options. However they will be instructed to report any adverse effects during trial. Data will assessed by a third person which will not known about the study so trial will be single blinded study. (as outcome assessor will be blinded)

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

The institutional board of Rashid Latif Medical College, Lahore

Street address

35KM Ferozepur Road, Lahore.

City

Lahore

Postal code

54900

Approval date

2023-10-10, 1402/07/18

Ethics committee reference number

IRB/2023/137

Health conditions studied

1

Description of health condition studied

Osteoarthritis of knee

ICD-10 code

M17

ICD-10 code description

Osteoarthritis of knee

Primary outcomes

1

Description

Pain

Timepoint

Before treatment and 4 weeks after treatment

Method of measurement

By using Numeric pain rating scale

2

Description

Balance

Timepoint

Before treatment and 4 weeks after treatment

Method of measurement

By using Balance berg scale

3

Description

Muscle strength

Timepoint

Before treatment and 4 weeks after treatment

Method of measurement

Sit to stand test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Group will be treated with Clamshell exercise. we will take diagnosed patients of Osteoarthritis and perform clamshell walking exercises. Firstly patient is positioned in supine lying regular period of 6 days in a week for application of hot pack over knee

for 10 min and start Clamshell walking in treadmill which includes clamshell walking two session per day (10 min per session) for 3 weeks on a treadmill at their maximum pace. The treatment duration will be 45 min in each session for a regular period of 6 days in a week. Both groups will receive hot pack for 10 min prior to exercise in order to warm up the muscle. Pre-test values will be taken on the first day and the post-test values will be taken after the total study duration of 3 week

Category

Treatment - Other

2

Description

Intervention group: Group B will be treated with , we take diagnosed patients of osteoarthritis and performed clamshell exercises along with retro walking exercises. Firstly, apply hot pack for 10 minutes in order to warm up and for improvement of circulation in muscles. Then we will strengthen the gluteus-medius to-tensor-fasciae latae by performing the clamshell and abduction exercises. unilateral wall-squat showed a significantly greater Gluteus med/TFL activation, side-lying hip abduction with anterior log-rolling position showed significantly greater Gluteus med activation, side-lying hip abduction exercise, side bridge exercise with knee flexion strengthen the Gluteus med/TFL muscle activation ratio than side bridge exercise or side bridge exercise with knee flexion and hip abduction

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Arif memorial teaching hospital, Lahore
Full name of responsible person
Sidra Ishaq
Street address
35-KM, Ferozepur Road. Lahore.
City
Lahore
Postal code
54900
Phone
+92 311 6580724
Email
ishaqsidra8@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Rashid Latif Medical college
Full name of responsible person
Hafiza Nida Rasheed
Street address
35-KM, Ferozepur Road. Lahore.
City
Lahore
Postal code
54900
Phone
+92 336 4535979
Email
naddia.rasheed20@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Rashid Latif Medical college

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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Rashid Latif Medical College
Full name of responsible person
Sidra Ishaq
Position
Physical Therapist
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
35-KM, Ferozepur Road. Lahore.
City
Lahore
Province
Punjab
Postal code
54900
Phone
+92 321 1185253
Email
ishaqsidra8@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Rashid Latif Medical College
Full name of responsible person

Hafiza Nida Rasheed

Position
Physical Therapist

Latest degree
Master

Other areas of specialty/work
Physiotherapy

Street address
35-KM, Ferozepur Road. Lahore

City
Lahore

Province
Punjab

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+92 336 4535979

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naddia.rasheed20@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Rashid Latif Medical College

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Hafiza Nida Rasheed

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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