

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Jul 2026

Effectiveness of proprioceptive and therapeutic exercises on pain, stiffness and functional disability among the patients with knee osteoarthritis

Protocol summary

Study aim

To assess the effectiveness of proprioceptive and therapeutic exercises on pain, stiffness and physical functioning among the patients with knee osteoarthritis.

Design

A Randomized control Trial with parallel group design of 54 patients, enrolled between August 2022 and October 2022, and followed for one month.

Settings and conduct

District head quarter hospital Mandi Baha ud Din and City hospital Jalal pur Jattan. The participants were chosen through lottery method (single blind).

Participants/Inclusion and exclusion criteria

Inclusion criteria: 45-60 years old patients diagnosed of knee osteoarthritis. Exclusion criteria: Patients with diagnosed osteoporosis, history of traumatic injury and surgery of knee joint (within last 6 months) and Patients of knee osteoarthritis with recommended surgery of knee.

Intervention groups

After 20 minutes of local heating Group A received proprioceptive exercises. Exercises included One leg balance: every patient stood on the affected leg with upright posture with hip and knee flexion on the other leg and ankle joint were off from the surface. Two repetitions of this position were held for 1 minute followed by rest for 10 to 20 seconds. Blind advanced one leg balance: This was the same as the one leg stance except that the patient was commanded to completely close his/her eyes during the exercise. Group B was treated with therapeutic exercises. Straight leg raise (SLR), pillow squeeze, heel raise, and quadriceps setting. The exercises were done in three sets of 5 repetitions with a 3-min rest between the Each patient was treated four times a week for a period of 4 weeks. Pre-treatment, 2nd week and 4th week pain intensity, joint stiffness and physical difficulties were assessed by

using Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) questionnaire.

Main outcome variables

Pain, Stiffness and Physical Functioning

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201021049094N3**

Registration date: **2022-12-17, 1401/09/26**

Registration timing: **retrospective**

Last update: **2022-12-17, 1401/09/26**

Update count: **0**

Registration date

2022-12-17, 1401/09/26

Registrant information

Name

Raheela Kousar

Name of organization / entity

The University of Lahore

Country

Pakistan

Phone

+92 53 3589155

Email address

raheelasaleem10@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-08-09, 1401/05/18

Expected recruitment end date

2022-12-09, 1401/09/18

Actual recruitment start date

2022-08-09, 1401/05/18

Actual recruitment end date

2022-12-09, 1401/09/18

Trial completion date

2022-12-10, 1401/09/19

Scientific title

Effectiveness of proprioceptive and therapeutic exercises on pain, stiffness and functional disability among the patients with knee osteoarthritis

Public title

Effectiveness of proprioceptive and therapeutic exercises on pain, stiffness and functional disability among the patients with knee osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

45-60 years old patients diagnosed of knee osteoarthritis

Exclusion criteria:

Patients with diagnosed osteoporosis History of traumatic injury and surgery of knee joint (within last 6 months) History of central or peripheral neuropathy Patients of knee osteoarthritis with recommended surgery of knee Patients with active synovitis

Age

From **45 years** old to **60 years** old

Gender

Both

Phase

1

Groups that have been masked

- Participant

Sample size

Target sample size: **54**

Actual sample size reached: **54**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization by lottery method. Allocation concealment through sealed envelope. In a bowl we put closed slips of group A and group B. Participants fulfilling inclusion criteria will randomly pick up groups and then allocated through sealed envelopes.

Blinding (investigator's opinion)

Single blinded

Blinding description

the patients were blind about their exercise group as they were not known either they were the member of Group A or Group B.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethical committee of University of Lahore

Street address

University of Lahore, chenab campus adjacent to chenab bridge, Gujrat.

City

Gujrat

Postal code

50700

Approval date

2022-08-16, 1401/05/25

Ethics committee reference number

REG/GRT/22/AHS-85

Health conditions studied**1****Description of health condition studied**

Knee osteoarthritis: Knee OA is the most common form of arthritis related to functional disabilities in middle-aged and older adults. Clinically complaints of pain, decreased muscle strength, joint instability, joint stiffness, and proprioceptive deficits are exhibited by patients with degenerative knee OA, all of which lead to a decline or loss of function.

ICD-10 code

M17

ICD-10 code description

Osteoarthritis of knee

Primary outcomes**1****Description**

Pain

Timepoint

Before intervention and 2, 4 weeks after intervention.

Method of measurement

Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) questionnaire

2**Description**

Stiffness

Timepoint

Before intervention and 2, 4 weeks after intervention.

Method of measurement

Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) questionnaire

3**Description**

Physical Functioning

Timepoint

Before intervention and 2, 4 weeks after intervention.

Method of measurement

Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) questionnaire

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group A: Proprioceptive Exercises (baseline: heating therapy)

Category

Rehabilitation

2**Description**

Intervention group B: Therapeutic Exercises (base line: heating therapy)

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

D.H.Q hospital M.B.Din (Physical Therapy Department)

Full name of responsible person

Nosheen Sultan

Street address

D.H.Q hospital, old block jail road, M.B.Din

City

Mandi Baha ud Din

Postal code

50400

Phone

+92 349 9740755

Email

Nosheensultan1957@gmail.com

2**Recruitment center****Name of recruitment center**

City hospital Jalal pur Jattan (Physical Therapy Department)

Full name of responsible person

Nosheen Sultan

Street address

City hospital tanda chok Jalal pur Jattan

City

Gujrat

Postal code

50780

Phone

+92 349 9740755

Email

Nosheensultan1957@gmail.com

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Self

Full name of responsible person

Nosheen Sultan

Street address

Heigherwala khurd, Tehsil: Phalia Distt: Mandi baha ud Din.

City

PAHRIANWALI ADD

Postal code

50300

Phone

+92 349 9740755

Email

Nosheensultan1957@gmail.com

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

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**

Persons

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

University of Lahore Chenab campus Gujrat

Full name of responsible person

Nosheen Sultan

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Heigherwala khurd, via pahrianwali tehsil: phalia Distt: M.B.Din.

City

Mandi Baha ud Din
Province
Punjab
Postal code
50300
Phone
+92 349 9740755
Email
Nosheensultan1957@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
University of Lahore
Full name of responsible person
Nosheen Sultan
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Heigherwala khurd, via Pahrianwali Tehsil: Phalia
Distt: M.B.Din.
City
Mandi Baha ud Din
Province
Punjab
Postal code
50300
Phone
+92 349 9740755
Email
Nosheensultan1957@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
University of Lahore, Chenab Campus Gujrat.
Full name of responsible person

Nosheen Sultan
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Heigherwala khurd, via Pahrianwali tehsil: Phalia
Distt: M.B.Din.
City
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Punjab
Postal code
50300
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+92 349 9740755
Email
nosheensultan1957@gmail.com

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