

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Comparative Analysis of Piroxicam and Post-isometric Exercises in Improving Knee Osteoarthritis

Protocol summary

Study aim

The basic purpose of this research is to compare the effects of Post isometric exercises and piroxicam on knee osteoarthritis.

Design

A pragmatic, community-based study. The randomized clinical trial and double-blinded study. study used to investigate the effect of piroxicam and post isometric exercises in knee osteoarthritis. The study will be conducted under the strict supervision of pharmacist, physiotherapist, radiologist and medical doctor and sample size is 68

Settings and conduct

Conducted at Muhammad physical therapy clinic and rehabilitation centre, Multan, Pakistan after approval from ethical committee study will be conducted.

Participants/Inclusion and exclusion criteria

Inclusion criteria: age 40-75 years, bilateral knee OA(grade 1,2 and 3), both genders (male and female), cartilage degeneration, local biomechanical factors (e.g., joint deformity, muscle weakness), nutritional factors, postmenopausal women, and exclusion criteria: grade 4, neurological disorders (e.g. Alzheimer's disease, Parkinson's disease), knee replacement, rheumatoid arthritis, steroidal injection in the past 2 months, neuropathy, tumor, knee fractures, knee ligament or meniscus injury, a congenital disorder of knee, diabetes mellitus > 10 years, metal implants in the knee.

Intervention groups

After assessment, 68 patients will be selected who meet the inclusion criteria will be randomized into two groups' i-e treatment group-A and treatment group-B. Patients will be recruited into two groups by lottery method. Treatment group-A will be treated with post isometric exercises and group-B will be treated with piroxicam. Dosage of 280 mg/day of piroxicam is given to patients of group-B. Treatment regimen will be distributed in 12-week period twice per week post isometric exercise sessions lasted for 45 minutes in group-A.

Main outcome variables

Pain, Range of motion and Functional ability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230202057310N4**

Registration date: **2023-09-12, 1402/06/21**

Registration timing: **registered_while_recruiting**

Last update: **2023-09-12, 1402/06/21**

Update count: **0**

Registration date

2023-09-12, 1402/06/21

Registrant information

Name

Imran Ahmad Khan

Name of organization / entity

Muhammad Nawaz Shareef University of Agriculture, Multan

Country

Pakistan

Phone

+92 333 6120602

Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-09-12, 1402/06/21

Expected recruitment end date

2023-12-12, 1402/09/21

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Analysis of Piroxicam and Post-isometric Exercises in Improving Knee Osteoarthritis

Public title

Piroxicam and Post-isometric Exercises in Improving Knee Osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Bilateral knee osteoarthritis (OA) with grade 1,2 and 3
Age 40-75 years Both genders (male and female)
Cartilage degeneration Local biomechanical factors (e.g., obesity, joint deformity, muscle weakness) Nutritional factors Postmenopausal women

Exclusion criteria:

Neurological disorders (e.g., Alzheimer's disease, Parkinson's disease) Rheumatoid arthritis Knee replacement patients Steroidal injection in the past 2 months Neuropathy Tumor Knee fractures Knee osteoarthritis (OA) with grade 4

Age

From **40 years** old to **75 years** old

Gender

Both

Phase

1-2

Groups that have been masked

- Investigator
- Data analyser

Sample size

Target sample size: **68**

Randomization (investigator's opinion)

Randomized

Randomization description

Patients will be randomized by using simple randomization. Lottery method carried out through sealed envelopes. Each participant will randomly choose the sealed envelope and open this sealed envelope.

Blinding (investigator's opinion)

Double blinded

Blinding description

Investigator and both data analyser will be kept blind to avoid any biasness

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

The Institutional Ethical Committee of Muhammad Institute of Medical and Allied Sciences, Multan

Street address

HBL street, Sbzazar metro station, Bosan road, Multan, Pakistan

City

Multan

Postal code

66000

Approval date

2023-08-13, 1402/05/22

Ethics committee reference number

MIMAS/08/26/Imran

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

Knee Osteoarthritis with grade 1, 2 and 3

ICD-10 code

M17

ICD-10 code description

Osteoarthritis of knee

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

Pain reduction

Timepoint

12 weeks

Method of measurement

Numeric Pain Rating Scale (NPRS), The Western Ontario and McMaster Universities Osteoarthritis Index(WOMAC scale) and pain catastrophizing scale

2**Description**

Increase in functional ability

Timepoint

12 weeks

Method of measurement

WOMAC scale

3**Description**

Swelling reduction

Timepoint

12 weeks

Method of measurement

Lab investigations

Secondary outcomes

1

Description

Range of motion

Timepoint

12 weeks

Method of measurement

Goniometry will be used

Intervention groups

1

Description

Intervention group: Group-A will be treated with post isometric exercises. Treatment regimen is distributed in 12-week period thrice per week post isometric exercise sessions lasted for 45 minutes This will be decreasing pain and stiffness. Post isometric exercises included resistive training with SLR, Bridging, calf stretching and pillow of the lower extremities.

Category

Treatment - Other

2

Description

Intervention group: Group-B will be given piroxicam orally. Dosage of 280 mg/day of piroxicam is given to patients of group B

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Muhammad physical therapy clinic and rehabilitation center, Multan

Full name of responsible person

Maliha Khalid Khan

Street address

HBL street, near Sbzazar metro station, Bosan road, Multan, Pakistan

City

Multan

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66000

Phone

+92 312 6827130

Email

malihatareen1997@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Muhammad Institute of Medical and Allied Sciences, Multan

Full name of responsible person

Imran Ahmad Khan

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HBL street, near Sbzazar metro station, Bosan road, Multan, Pakistan

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Grant name

Student fund

Grant code / Reference number

MIMAS/26/2023/Urwa

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

Yes

Title of funding source

Muhammad Institute of Medical and Allied Sciences, Multan

Proportion provided by this source

70

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

Muhammad Institute of Medical and Allied Sciences, Multan

Full name of responsible person

Maliha Khalid Khan

Position

Demonstrator

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Department of Pharmacology and Physiology,
Muhammad Nawaz Sharif University of
Agriculture, Multan

Full name of responsible person

Imran Ahmad Khan

Position

Lecturer

Latest degree

Ph.D.

Other areas of specialty/work

Medical Pharmacy

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Person responsible for updating data

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Name of organization / entity

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Full name of responsible person

Urwa Batool

Position

Final year Student

Latest degree

Medical doctor

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