Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 comittee 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
imran.ahmad@mnsuam.edu.pk

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
Postal code
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
Street address
HBL street, near Sbzazar metro station, Bosan road, Multan, Pakistan
City
Multan
Postal code
66000
Phone
+92 333 6120602
Email
imranahmadkhandurrani@gmail.com
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
Street address
HBL street, Sbzazar metro station, Bosan road, Multan, Pakistan
City
Multan
Province
Punjab
Postal code

66000

Phone
+92 312 6827130

Email
malihatareen1997@gmail.com

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

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

City
Multan

Province
Punjab

Postal code
66000

Phone
+92 333 6120602

Email
imran.ahmad@mnsuam.edu.pk

Person responsible for updating data

Contact

Name of organization / entity
Muhammad Institute of Medical and Allied Sciences, Multan

Full name of responsible person
Urwa Batool

Position
Final year Student

Latest degree
Medical doctor

Other areas of specialty/work
Physiotherapy

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

City
Multan

Province
Punjab

Postal code
66000

Phone
+92 315 6888656

Email
urwabatol12@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