

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

Effectiveness of motor imagery technique on pain, range of motion and physical function in patients who underwent total knee replacement; A randomized controlled trial

Protocol summary

Study aim

To compare the effectiveness of motor imagery technique along with conventional therapy and conventional therapy alone on pain intensity, range of motion and physical function in patients who underwent total knee replacement.

Design

Randomised, superiority, parallel group trial with blinded outcome assessment. Randomisation was centralised and computerised with concealed randomisation sequence carried out at an external site

Settings and conduct

Rehman medical institute, Peshawar Due to nature of study blinding the researcher/therapist and subjects will not be feasible. However, the assessor, who will compare pre and post scores will be blinded.

Participants/Inclusion and exclusion criteria

INCLUSION CRITERIA: 1. Age group 45-75 years 2. Males & females 3. Patients who had undergone unilateral total knee replacement **EXCLUSION CRITERIA:** 1. Uncontrolled hypertension and Uncontrolled diabetes mellitus 2. A history of any neurological disorder, multiple sclerosis, Parkinson's disease 3. Patients with rheumatoid arthritis or active cancer 4. Previous history of deep veinous thrombosis

Intervention groups

Experimental Group (Group A): This group will be same as control group (as having conventional physical therapy) but with addition of the motor imagery techniques session. Each session will be of 30 minutes per day for five days per week. The treatment will be provided for three days during hospitalization and two weeks after discharge. Control Group (Group B): This group will comprise of conventional therapy for the participants. Conventional therapies include CPM (continuous passive machine), Icing and physical exercises.

Main outcome variables

Tools to be used are numeric rating scale for pain intensity, western ontario mcmaster universities osteoarthritis index (WOMAC) for physical function and Goniometer for range of motion.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220524054977N1**

Registration date: **2022-07-03, 1401/04/12**

Registration timing: **registered_while_recruiting**

Last update: **2022-07-03, 1401/04/12**

Update count: **0**

Registration date

2022-07-03, 1401/04/12

Registrant information

Name

Wagma Wajid

Name of organization / entity

Rehman Medical Institute, Peshawar

Country

Pakistan

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+92 91 5822632

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-06-13, 1401/03/23

Expected recruitment end date

2022-12-13, 1401/09/22
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effectiveness of motor imagery technique on pain, range of motion and physical function in patients who underwent total knee replacement; A randomized controlled trial

Public title
Effectiveness of motor imagery technique on pain, range of motion and physical function in patients who underwent total knee replacement; A randomized controlled trial

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Age group 45-75 years Males & females Patients who had undergone unilateral TKR
Exclusion criteria:
Uncontrolled hypertension and Uncontrolled diabetes mellitus A history of any neurological disorder, multiple sclerosis, Parkinson's disease Patients with rheumatoid arthritis or active cancer Previous history of deep veinous thrombosis

Age
From **45 years** old to **75 years** old

Gender
Both

Phase
3

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **36**

Randomization (investigator's opinion)
Randomized

Randomization description
After patients are selected and baseline similarities are assessed, they will be randomly allocated to the control group and experimental group using the lottery method.

Blinding (investigator's opinion)
Single blinded

Blinding description
Due to the nature of the study, it will not be feasible to blind the researcher/therapist and subjects. However, the assessor, who will assess pre and post scores, will be blinded

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Advance Studies & Research Board (AS&RB)

Street address

Physical therapy, Rehman Medical Institute

City

Peshawar

Postal code

25000

Approval date

2022-06-13, 1401/03/23

Ethics committee reference number

AS&RB Khyber medical university

Health conditions studied

1

Description of health condition studied

Total Knee replacement

ICD-10 code

Z96.651

ICD-10 code description

Presence of right artificial knee joint

Primary outcomes

1

Description

Physical Function

Timepoint

Baseline measurement and after 2 weeks

Method of measurement

WOMAC questionnaire

Secondary outcomes

1

Description

Range of motion (ROM)

Timepoint

baseline and 2 weeks

Method of measurement

goniometer

2

Description

Pain

Timepoint

baseline and 2 weeks

Method of measurement

Numeric rating scale

Intervention groups

1

Description

Intervention group: This group will be given conventional physical therapy with addition of the motor imagery techniques session. Each MI session will be of 30 minutes per day for five days per week. The treatment will be provided for three days during hospitalization and for two weeks after discharge.

Category

Rehabilitation

2

Description

Control group: This group will comprise of conventional therapy for the participants. Conventional therapies include CPM (continuous passive machine), Icing and physical exercises. Each physical exercise will be of 10 Repetitions, 1 set and 2 sessions per day.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Rehman Medical institute, Peshawar

Full name of responsible person

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Khbyer Medical University, Peshawar

Full name of responsible person

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Grant name

Dr. Zia ul Haq

Grant code / Reference number

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

No

Title of funding source

No funding

Proportion provided by this source

100

Public or private sector

Public

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

Rehman Medical University, Peshawar

Full name of responsible person

Dr. Bilal Khan

Position

Assistant Professor

Latest degree

Master

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Other areas of specialty/work

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Effectiveness of motor imagery technique on pain, range of motion and physical function in patients who underwent total knee replacement; A randomized controlled trial

When the data will become available and for how long

1 year

To whom data/document is available

RMI, Peshawar

Under which criteria data/document could be used

N/A

From where data/document is obtainable

N/A

What processes are involved for a request to access data/document

N/A

Comments**Person responsible for updating data****Contact****Name of organization / entity**

Rehman Medical Institute, Peshawar

Full name of responsible person

Muhammmad Zulfiqar

Position

Clinical Physiotherapist

Latest degree

Master

Other areas of specialty/work

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