Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
Phone
+92 91 5822632
Email address
wagma.wajid@rmi.edu.pk

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
Wagma Wajid
Street address
Physical therapy, Rehman Medical Institute
City
Peshawar
Postal code
25000
Phone
+92 91 5838000
Email
wagma.wajid@rmi.edu.pk

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Khbyer Medical University, Peshawar
Full name of responsible person
Wagma Wajid
Street address
Physical therapy, Rehman Medical Institute
City
Peshawar
Postal code
25000
Phone
+92 91 5838000
Email
wagma.wajid@rmi.edu.pk
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
Physiotherapy
Street address
Physical therapy, Rehman Medical Institute
City
Peshawar
Province
Khyber Pakhtunkhwa
Postal code
25000
Phone
+92 91 5838000
Email
bilal.khan@rmi.edu.pk

Person responsible for scientific inquiries

Contact
Name of organization / entity
Khyber Medical University, Peshawar
Full name of responsible person
Mujeeb Ur Rehman
Position
Assistant Professor
Latest degree
Master

Other areas of specialty/work
Physiotherapy
Street address
Physical therapy, Khyber Medical University, Peshawar
City
Peshawar
Province
Khyber Pakhtunkhwa
Postal code
25000
Phone
+92 91 5892885
Email
mujeeb.rahman@kmu.edu.pk

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
Physiotherapy
Street address
Physical therapy, Rehman Medical Institute
City
Peshawar
Province
Khyber Pakhtunkhwa
Postal code
25000
Phone
+92 91 5838000
Email
muhammad.zulfiqar@rmi.edu.pk

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