

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effectiveness of lower limb rehabilitation protocol using mobile health on physical disability and exercise adherence among knee osteoarthritis (OA) patients who are overweight and obese.

Protocol summary

Study aim

The study objective is to investigate the effectiveness of LLRPw-mHealth on physical disability and exercise adherence among knee osteoarthritis patients who are overweight and obese.

Design

A parallel group, single blinded randomized control trial. Sixty participants will be randomly divided into three groups by computer generated numbers. It is a single centered.

Settings and conduct

Study will be conducted at the Teaching Bay of Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology. Participants are blinded in this study. After randomization only one group will be called for their intervention in order to secure the blinding process.

Participants/Inclusion and exclusion criteria

Inclusion criteria Overweight and obese Knee OA patients; Both males and females; Aged between 45 to 60 years; Living in urban area of Punjab, Lahore. Non-inclusion criteria: Rheumatoid arthritis; Flat feet; Spinal deformities; Surgery or injections of knee/s of any cause; System lupus erythematosus (SLE).

Intervention groups

Intervention group 1 (LLRPw-mHealth): The researcher will teach the lower limb rehabilitation protocol by using mHealth and instructions of daily care and will advice them to carry out three times a week for 12-weeks at their houses. The researcher will send the reminder with the mHealth in the form of periodic manual WhatsApp messages two times a day for three days a week for 12 weeks. Intervention group 2 (LLRPwo-mHealth): The researcher will teach the lower limb rehabilitation protocol and instructions of daily care and will advice them to carry out three times a week for 12-weeks at their houses. Control group: The researcher will teach the instructions of daily care to the control group keeping

in mind the ethical consideration of patients.

Main outcome variables

Physical disability; Exercise adherence

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191221045846N1**

Registration date: **2020-02-11, 1398/11/22**

Registration timing: **registered_while_recruiting**

Last update: **2020-02-11, 1398/11/22**

Update count: **0**

Registration date

2020-02-11, 1398/11/22

Registrant information

Name

Muhammad Tariq Rafiq

Name of organization / entity

Punjab Employees Social Security Institution

Country

Pakistan

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+92 42 99330101

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-12-25, 1398/10/04

Expected recruitment end date

2020-03-24, 1399/01/05

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effectiveness of lower limb rehabilitation protocol using mobile health on physical disability and exercise adherence among knee osteoarthritis (OA) patients who are overweight and obese.

Public title
Role of advising exercises using mobile health in treatment of knee osteoarthritis

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Overweight and obese Knee OA patients Both males and females Aged between 45 to 60 years Living in urban area of Punjab, Lahore,
Exclusion criteria:
System lupus erythematosus (SLE) Previous surgery of knee/s of any cause Flat feet Spinal deformities Participants having history of metabolic, hormonal, orthopaedic, cardiovascular diseases The patients who had any injections of knee/s in the last six months.

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

Gender
Both

Phase
3

Groups that have been masked

- Participant

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple random technique by computer number generator

Blinding (investigator's opinion)
Single blinded

Blinding description
Four research coordinators will be involved in data collection. The two coordinators will be involved in baseline data collection and two coordinators will be involved in the assessment of outcomes. Participants will be blinded of other group interventions by calling them on different days.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethical Committee Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology, Punjab Employees Soci

Street address

Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology, Punjab Employees Social Security Institution, Multan Chongi, Multan Road, Lahore, Pakistan

City

Lahore

Postal code

54000

Approval date

2019-08-28, 1398/06/06

Ethics committee reference number

NO.RAIC PESSI/Estt/2019/487

Health conditions studied

1

Description of health condition studied

Osteoarthritis of knee

ICD-10 code

M17

ICD-10 code description

Osteoarthritis of knee

Primary outcomes

1

Description

Physical disability

Timepoint

Before intervention and 12 weeks after intervention

Method of measurement

Composite Indian Functional Knee Assessment Scale (CIFKAS)

Secondary outcomes

1

Description

Exercise adherence

Timepoint

Before intervention and 12 weeks after intervention

Method of measurement

Numeric rating scale from 0 to 10

Intervention groups

1

Description

Intervention group 1 (LLRPw-mHeath): It will consist of strengthening exercises of the lower limbs in sitting and lying positions and instructions of daily care. The training session of strengthening exercises will be of 30-40 minutes with 10 minutes warm up at the start and 10 minutes cooling down at the end. It will consist of three times a week for 12 weeks at their houses. The reminder in the form of mobile health (periodic manual WhatsApp messages) will be send to carry on the training sessions. The messages will be send two times a day for three days a week for a duration of 12-weeks as a reminder.

Category

Other

2

Description

Intervention group 2 (LLRPwo-mHealth): It will consist of strengthening exercises of the lower limbs in sitting and lying positions and instructions of daily care. The training session of strengthening exercises will be of 30-40 minutes with 10 minutes warm up at the start and 10 minutes cooling down at the end. It will consist of three times a week for 12 weeks at their houses. No reminder will be send by using mobile health in this intervention.

Category

Rehabilitation

3

Description

Control group: It will consist of instructions of daily care only as a usual care for duration of 12 weeks at their houses. No reminder will be send by using mobile health in this intervention.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Teaching Bay of Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology

Full name of responsible person

Dr Farid Ahmad Chaudhary

Street address

Teaching Bay of Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology, Punjab Employees Social Security Institution, Multan Chongi, Multan Road Lahore

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology

Full name of responsible person

Dr Farid Ahmad Chaudhary

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Grant name

Grant code / Reference number

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

No

Title of funding source

Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology, Punjab Employees Social Security Institution, Multan Chongi, Multan Road Lahore

Proportion provided by this source

50

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

2

Sponsor

Name of organization / entity

University of Malaya

Full name of responsible person

Dr Eliza Hafiz

Street address

Centre for Sport and Exercise Sciences, University of Malaya, Kuala Lumpur, Malaysia

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Kuala Lumpur

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eliza@um.edu.my

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

No

Title of funding source

University of Malaya, Kuala Lumpur, Malaysia

Proportion provided by this source

50

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**

Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology

Full name of responsible person

Muhammad Tariq Rafiq

Position

Consultant Senior Physiotherapist

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

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

University of Malaya

Full name of responsible person

Mohamad Shariff A Hamid

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physical Medicine

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

Rehmatul-Lil-Alameene Post Graduate Institute of Cardiology

Full name of responsible person

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Position

Senior Physiotherapist

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

Principal investigator doesn't allow.

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not 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

No - There is not a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available