

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jun 2026

Efficacy of Action Potential Simulation and Interferential therapy in the rehabilitation of patients with knee osteoarthritis

Protocol summary

Summary

(1) Objectives: Our aim in this study is to evaluate the efficacy of Action Potential Simulation and Interferential therapy in the rehabilitation of patients with knee osteoarthritis. (2) Design: 70 patients with knee osteoarthritis will enter the trial process after qualifying the inclusion and exclusion criteria. (3) Setting and conduct: Patients will be randomly assigned to two groups. First group will receive Action Potential Simulation (APS) in their physiotherapy protocol and second group will receive interferential therapy for ten sessions. All patients in physiotherapy sessions will receive the usual physical modalities equally. Evaluation of the patients will be done before study and two months later. (4) Participants including major eligibility criteria: Participants will be selected among the patients with mild to moderate knee osteoarthritis. The key exclusion criteria are age under 50 years old, Rheumatologic disease, History of knee surgery, Severe knee osteoarthritis, Electrical implants like pacemaker, Heart conduction block disease, Epilepsy, Cancers, lower limbs thrombosis, Balance control deficit, Neuropathy or sensory deficit, Skin breakdown in knee region and intraarticular corticosteroids within 6 month. (5) Interventions: Using Action Potential Simulation or Interferential therapy. (6) Main outcome measures: WOMAC and visual analogue scale measurement will be used before and at the end of study.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201403024641N8**

Registration date: **2014-03-06, 1392/12/15**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-03-06, 1392/12/15

Registrant information

Name

Bina Eftekharsadat

Name of organization / entity

Tabriz university of medical sciences

Country

Iran (Islamic Republic of)

Phone

+98 41 1330 3193

Email address

binasadat@tbzmed.ac.ir

Recruitment status

Recruitment complete

Funding source

Tabriz University of Medical Sciences

Expected recruitment start date

2012-08-22, 1391/06/01

Expected recruitment end date

2013-08-23, 1392/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Efficacy of Action Potential Simulation and Interferential therapy in the rehabilitation of patients with knee osteoarthritis

Public title

Efficacy of different physiotherapy methods in the rehabilitation of patients with knee osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Mild or moderate knee osteoarthritis based on American College of Rheumatology criteria.
Exclusion criteria: Age under 50 years old; Rheumatologic disease; History of knee surgery; Lower limbs fracture with knee joint involvement; Severe knee osteoarthritis; Electrical implants like pacemaker; Heart conduction block disease; Epilepsy; Cancers; Pregnancy; Lower limbs thrombosis; Couldn't complete questioners for any reason; knee joint injection in previous 6 month; Balance control deficit; Neuropathy or sensory deficit; Skin breakdown in knee region.

Age

From **50 years** old to **100 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **70**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Tabriz University of Medical Sciences

Street address

Research ministry, Second central building, Tabriz University of Medical Sciences, Golgasht street Tabriz

City

Tabriz

Postal code

Approval date

2011-11-28, 1390/09/07

Ethics committee reference number

9055

Health conditions studied

1

Description of health condition studied

Knee Osteoarthritis

ICD-10 code

M15.9

ICD-10 code description

Polyarthrosis, unspecified

Primary outcomes

1

Description

Pain relief

Timepoint

Before intervention and two months later

Method of measurement

Visual Analogue Scale

Secondary outcomes

1

Description

Function Improvement

Timepoint

Before intervention and two months later

Method of measurement

Western Ontario and McMaster Universities Arthritis Index (WOMAC)

Intervention groups

1

Description

First group will undergo Action potential stimulation (APS) 10-15 minutes each session for 10 session. All patients (both groups) in physiotherapy sessions will receive the usual physical modalities equally.

Category

Rehabilitation

2

Description

Second group will undergo inferential therapy (IFT) 10-15 minutes each session for 10 sessions. All patients (both groups) in physiotherapy sessions will receive the usual physical modalities equally.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Shohada Hospital

Full name of responsible person

Dr. Bina Eftekharsadat
Street address
City
Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Physical medicine and rehabilitation researches center
Full name of responsible person
Dr. Seyyed Kazem Shakouri
Street address
Department of Physical Medicine and rehabilitation,
Imam Reza Hospital, Daneshgah Square, Tabriz
City
Tabriz

Grant name

Grant code / Reference number

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

Title of funding source

Physical medicine and rehabilitation researches center

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity
Tabriz University of Medical Sciences
Full name of responsible person
Dr. Bina Eftekharsadat
Position
Associate professor of Physical Medicine & rehabilitation
Other areas of specialty/work
Street address
Department of Physical Medicine and rehabilitation,
Imam Reza Hospital, Daneshgah Square, Tabriz
City
Tabriz
Postal code
Phone
+98 41 1336 1928
Fax
Email
binasadat@yahoo.com
Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity
Tabriz University of Medical Sciences
Full name of responsible person
Dr. Bina Eftekharsadat
Position
Associate professor of Physical Medicine & rehabilitation
Other areas of specialty/work
Street address
Department of Physical Medicine and rehabilitation,
Imam Reza Hospital, Daneshgah Square, Tabriz
City
Tabriz
Postal code
Phone
+98 41 1336 1928
Fax
Email
binasadat@tbzmed.ac.ir
Web page address

Person responsible for updating data

Contact

Name of organization / entity
Tabriz University of Medical Sciences
Full name of responsible person
Dr. Bina Eftekharsadat
Position
Associate professor of Physical Medicine & rehabilitation
Other areas of specialty/work
Street address
Department of Physical Medicine and rehabilitation,
Imam Reza Hospital, Daneshgah Square, Tabriz
City
Tabriz
Postal code
Phone
00
Fax
Email
Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

