

Clinical Trial Protocol

Iranian Registry of Clinical Trials

05 Jul 2026

The effects of hip and knee trigger point dry needling on pain, function and balance in patients with knee osteoarthritis

Protocol summary

Summary

Objective: Pain is a common complication of patients with knee Osteoarthritis. 75% of pain in these patients originates from facial tightness and trigger points. Considering positive effects of dry needling, it might be used as an alternate method to decrease pain and improve function of patients with knee Osteoarthritis. Methods and Materials: Forty patients (aged 50-70) with moderate knee Osteoarthritis will participate in this RCT using sample of convenience. Patients will be randomly assigned into either intervention or control group. Inclusion criteria: Knee pain: Morning stiffness: Crepitation in movement: Radiologic signs of osteoarthritis: have at least one trigger point on muscles around hip and knee. Exclusion criteria: extraction of joint fluid or Corticosteroid injection: lower limb or spinal surgery: systemic diseases. A written informed consent will be signed by the eligible patients. Our outcome measures are functional level (KOOS questionnaire), pain intensity (visual analogue scale), trigger point sensitivity (algometry), balance (Y- test), and performance (40m fast- paced walk and Timed Up and Go test). After initial assessment, patients in intervention group will receive 3 sessions of dry needling in knee and thigh muscles. The control group will not receive treatment. Secondary evaluation in both groups will be performed seven days after the last session. Results will be analysed to evaluate intra-group and inter-group changes of the outcomes measures.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015020415932N9**

Registration date: **2015-07-01, 1394/04/10**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-07-01, 1394/04/10

Registrant information

Name

Alireza Motealleh

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 71 1626 5108

Email address

motealleh@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences

Expected recruitment start date

2015-05-22, 1394/03/01

Expected recruitment end date

2015-08-23, 1394/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of hip and knee trigger point dry needling on pain, function and balance in patients with knee osteoarthritis

Public title

The effects of hip and knee trigger point dry needling on pain & disability of patients with knee arthrosis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion Criteria: Patients with moderate knee Osteoarthritis based on Kellgren scale(have knee pain Morning stiffness less than half an hour Crepitation in movement Radiologic signs of Osteoarthritis have at least one trigger point on muscles around hip and knee Age 45-70 Visual Analogue Scale 3-7 Literate Exclusion criteria: Extraction of joint fluid or Corticosteroid injection history of surgery in lower limb or spinal Systemic disease Acute arthritis Soft tissue involvement in Rheumatoid arthritis Acute knee Inflammation Neurologic disease(such as Epilepsy) Anticoagulant use(such as Aspirin) Blood diseases(such as Hemophilia) Acute Immune disease Phobia of needle Lymphedema Malignancies AIDS Hepatitis Heart valve problem Acute infection Cardiovascular disease Pregnancy Intact vestibular system

Age

From **45 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Shiraz University of Medical Sciences

Street address

Shiraz University of Medical Sciences, Zand street,
Shiraz, Fars, Iran

City

Shiraz

Postal code

Approval date

2015-04-30, 1394/02/10

Ethics committee reference number

IR.SUMS.REC.1394.19

Health conditions studied

1

Description of health condition studied

Knee Osteoarthritis

ICD-10 code

M17.0

ICD-10 code description

Primary gonarthrosis, bilateral

Primary outcomes

1

Description

Pain

Timepoint

before treatment and seven days after last session

Method of measurement

Visual analog scale

2

Description

Function

Timepoint

before treatment and seven days after last session

Method of measurement

Koos Questionnaire

3

Description

Balance

Timepoint

Before treatment and seven days after last session

Method of measurement

Y Balance test

Secondary outcomes

1

Description

Performance

Timepoint

before treatment and seven days after last session

Method of measurement

40m fast paced walk test & timed up and go test

Intervention groups

1

Description

The control group will be treated by dry needling 3 sessions (3 days a week) for trigger points around hip and knee joint. After needling, the needle will be moved in different directions to detect muscle twitch.

Category

Treatment - Other

2

Description

The control group will not receive treatment.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

School of Rehabilitation Sciences

Full name of responsible person

Najmeh Abdoldhian

Street address

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Dr. Basir Hashemi

Street address

Central Building of Shiraz University of Medical Sciences ,Zand avenue ,Shiraz

City

Shiraz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Shiraz University of Medical Sciences

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

Shiraz University of Medical Sciences

Full name of responsible person

Najmeh Abdolahian

Position

Student

Other areas of specialty/work

Street address

School of Rehabilitation Sciences, Abiverdi 1 Avenue, Chamran Blvd, Shiraz

City

Shiraz

Postal code

Phone

+98 31 3441 5945

Fax

Email

abdolahiannajmeh@yahoo.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Dr Alireza Motealleh

Position

Ph.D

Other areas of specialty/work

Street address

School of Rehabilitation Sciences, Abiverdi 1 Avenue, Chamran Blvd, Shiraz

City

Shiraz

Postal code

Phone

+98 71 3627 1552

Fax

Email

pmotealeh@yahoo.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Shiraz University of Medical Sciences

Full name of responsible person

Najmeh Abdolahian

Position

Student

Other areas of specialty/work

Street address

School of Rehabilitation Sciences, Abiverdi 1 Avenue, Chamran Blvd, Shiraz

City

Shiraz

Postal code

Phone

+98 31 3441 5945

Fax

Email

abdolahiannajmeh@yahoo.com

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

Data Dictionary

empty