

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Jul 2026

Study the efficacy of Glucosamine phonophoresis in knee osteoarthritis

Protocol summary

Summary

The objective of this randomized trial is to investigate the effect of Glucosamine combinations phonophoresis on knee osteoarthritis. In this study 36 patients with osteoarthritis who meet the inclusion/exclusion criteria will be recruited and randomly assigned into intervention or control group. The patients in the intervention group will receive phonophoresis of glucosamine through application of therapeutic ultrasound. The patients in one control group will receive therapeutic ultrasound and the other control group will receive placebo ultrasound. All three groups would receive standard treatment include: IR (Infra Red), TENS (Transcutaneous Electrical Nerve Stimulation) and SLR exercise (Straight Leg Raising to strengthen quadriceps muscle). All treatment sessions last for 10 sessions. Pain, active knee flexion range of motion, swelling of knee joint, morning stiffness and quality of life of all participants will be measured before and after the intervention and compared between groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201111014203N2**

Registration date: **2011-11-22, 1390/09/01**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2011-11-22, 1390/09/01

Registrant information

Name

Atefeh Aminian Far

Name of organization / entity

Semnan University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 23 1335 4180

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Recruitment status

Recruitment complete

Funding source

Deputy of Research, Semnan University of Medical Sciences

Expected recruitment start date

2011-09-23, 1390/07/01

Expected recruitment end date

2012-02-19, 1390/11/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Study the efficacy of Glucosamine phonophoresis in knee osteoarthritis

Public title

Efficacy of Glucosamine in knee osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: presence of mechanical knee pain, osteophytes in knee X-ray, age above 50 years, morning stiffness lasting less than 30 minutes, crepitus in palpation of knee joint. Exclusion criteria: presence of other knee joint diseases, osteoarthritis of hip and/or ankle joints, radicular pain originating from lumbar spine, physiotherapy history with intra/peri articular injection (corticosteroids or hyaluronic acid) during past six months, physiotherapy history during past six months, surgery history of knee joints, psychotic or mental disorders, neoplasm, infections, bleeding, neurologic

disorders (sensory or motor)

Age
From **50 years** old to **75 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **36**

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

Deputy of Research, Semnan University of Medical Sciences

Street address

Bassij Blvd, Semnan University of Medical Sciences,
Deputy of Research, Semnan, Iran.

City

Semnan

Postal code

3519899951

Approval date

2011-09-26, 1390/07/04

Ethics committee reference number

114743/90

Health conditions studied

1

Description of health condition studied

Osteoarthritis

ICD-10 code

M15.4

ICD-10 code description

Erosive (osteo)arthritis

Primary outcomes

1

Description

Quality of Life

Timepoint

Before treatment and after 10 treatment sessions .

Method of measurement

WOMAC INDEX Questionnaire

2

Description

Duration of Morning stiffness

Timepoint

Before treatment and after 10 treatment sessions .

Method of measurement

Based on scale of 0-4

3

Description

Measurement of resting and activity pain

Timepoint

Before treatment and after 10 treatment sessions .

Method of measurement

Based on Visual Analogue Scale (0-10)

4

Description

Active range of motion of knee flexion

Timepoint

Before treatment and after 10 treatment sessions .

Method of measurement

Based on Goniometry

5

Description

Swelling of knee joint

Timepoint

Before treatment and after 10 treatment sessions .

Method of measurement

Based on tape measurement

Secondary outcomes

empty

Intervention groups

1

Description

Intervention (3, Phonophoresis of glucosamine): Standard treatment (includes: IR, TENS and Exercise) with phonophoresis of glucosamine. Standard treatment includes: IR lasting for 20 minutes in distance of 40-50 cm from knees, TENS in form of high TENS (f=50-100 Hz, pulse time of 0/05 ms, low intensity level at tingling sensation), placing electrodes at knee joint line around the patella, for 15 minutes and SLR exercise, raising limb from the table at distance of 5 inches to strengthen

quadriceps muscle. Ultrasound applied continuously, in combination of 50% gel and 50% glucosamine ointment, frequency of 1 MHz with the intensity of 2 watt/cm² and duration of 5 minutes increasing gradually during the treatment sessions. For 10 sessions.

Category

Treatment - Other

2

Description

Intervention (2, Ultrasound): Standard treatment (includes: IR, TENS and Exercise) with US. Standard treatment includes : IR lasting for 20 minutes in distance of 40-50 cm from knees, TENS in form of high TENS (f=50-100 Hz, pulse time of 0/05 ms, low intensity level at tingling sensation), placing electrodes at knee joint line around the patella, for 15 minutes and SLR exercise, raising limb from the table at distance of 5 inches to strengthen quadriceps muscle. Ultrasound applied continuously, frequency of 1 MHz with the intensity of 2 watt/cm² and duration of 5 minutes increasing gradually during the treatment sessions. For 10 sessions.

Category

Treatment - Other

3

Description

Intervention (1, Placebo US): Standard treatment (includes: IR, TENS and Exercise) with placebo US. Standard treatment includes: IR lasting for 20 minutes in distance of 40-50 cm from knees, TENS in form of high TENS (f=50-100 Hz, pulse time of 0/05 ms, low intensity level at tingling sensation), placing electrodes at knee joint line around the patella, for 15 minutes and SLR exercise, raising limb from the table at distance of 5 inches to strengthen quadriceps muscle. Placebo ultrasound for 5 minutes, around the knee joint. For 10 sessions.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Clinics under supervision of Semnan University of Medical Sciences

Full name of responsible person

Dr. Atefeh Aminian Far

Street address

Kilometer 5 Damghan road, Semnan University of Medical Sciences

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Deputy of Research, Semnan University of Medical Sciences

Full name of responsible person

Dr. Raheb Ghrbani

Street address

Bassij Blvd, Semnan University of Medical Sciences, Deputy of Research, Semnan, Iran.

City

Semnan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Deputy of Research, Semnan 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

Semnan University of Medical Sciences

Full name of responsible person

Dr. Atefeh Aminian Far

Position

Ph.D of Physiotherapy/ Assistant Professor

Other areas of specialty/work

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Person responsible for scientific inquiries

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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

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

Semnan University of Medical Sciences

Full name of responsible person

Dr. Atefeh Aminian Far

Position

Ph.D of Physiotherapy/ Assistant Professor