

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The comparison between Aerobic exercise and progressive resistance exercise effect on Knee osteoarthritis

Protocol summary

Summary

The objective of the present study is to compare aerobic exercise and progressive resistance exercise effect on Knee osteoarthritis. 50 patients, aged 45-70 years old, with knee osteoarthritis participate in this study. The patients were randomized into one of the three groups including control and two intervention groups including aerobic exercise and progressive resistance exercise group. In Aerobic exercise group the patients will walk on a treadmill for 15 minutes that gradually increase to 30 minutes. In progressive resistance exercise group the patients will perform progressive resistance exercise for Hamstring and Quadriceps muscles. In both group the same electrotherapy including Ultrasound, Infrared, and analgesic stimulation was done. Before and after the intervention the pain intensity, quality of life, Range of motion, and walking status will be assessed by VAS, Womac scale, goniometer and 6MWT, respectively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201102114549N3**
Registration date: **2011-03-29, 1390/01/09**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2011-03-29, 1390/01/09

Registrant information

Name

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2010-12-22, 1389/10/01

Expected recruitment end date

2011-07-23, 1390/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The comparison between Aerobic exercise and progressive resistance exercise effect on Knee osteoarthritis

Public title

The comparison between Aerobic exercise and progressive resistance exercise effect on Knee osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Age 45 to 70 years, Having Physician diagnosed osteoarthritis, Ability to walk at least 15 minutes continuously, Ability to participate in low intensity progressive resistance exercise Exclusion criteria: other form Arthritis, having corticosteroid or viscosupplement injections within the previous three months, history of infection in knee, daily medication for Osteoarthritis, exercising more than 60 minutes per

week, musculoskeletal or other diseases that involve knee

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: **50**

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

Semnan University of Medical Sciences

Street address

Semnan University of Medical Sciences, 5th Kilometer, Damghan St.

City

Semnan

Postal code

Approval date

2011-01-31, 1389/11/11

Ethics committee reference number

89/47438

Health conditions studied

1

Description of health condition studied

Osteoarthritis

ICD-10 code

M15, M19

ICD-10 code description

Arthrosis

Primary outcomes

1

Description

Walking status

Timepoint

Before and after intervention

Method of measurement

Walking speed by 6MWT

2

Description

Range of motion

Timepoint

Before and after intervention

Method of measurement

The therapist Measures by goniometer

3

Description

Pain

Timepoint

Before and after intervention

Method of measurement

Interview to patient by VAS

4

Description

Quality of life

Timepoint

Before and after intervention

Method of measurement

Interview to patient by Womac scale

Secondary outcomes

empty

Intervention groups

1

Description

In control group electrotherapy including Infrared, Ultrasound and analgesic current in motor level will be done.

Category

Rehabilitation

2

Description

In aerobic exercise group electrotherapy including Infrared, ultrasound and analgesic current in motor level will be done and then the patients will walk on treadmill for 15 minute.

Category

Rehabilitation

3

Description

In progressive resistance exercise group electrotherapy including Infrared, ultrasound and analgesic current in motor level will be done and then the patients will do progressive resistance exercise for Quadriceps and Hamstring muscles

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Physiotherapy centers of Rehabilitation Faculty of Semnan University of Medical Science

Full name of responsible person

Elham Fatemy

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

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Full name of responsible person

Vahid Semnany

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

Yes

Title of funding source

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**

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empty

Sharing plan

Informed Consent Form

empty

Deidentified Individual Participant Data Set (IPD)

Clinical Study Report

empty

empty

Study Protocol

Analytic Code

empty

empty

Data Dictionary

Statistical Analysis Plan

empty