Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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, goniameter 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

Elham Fatemy

Name of organization / entity

Semnan University Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 23 1335 4180

Email address

fatemy@sem-ums.ac.ir

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 Universiy of Medical Sciences

Street address
Semnan Universiy 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 Meatures by guniameter

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 Facualty of Semnan Universitey of Medical Science

Full name of responsible person

Elham Fatemy

Street address

Semnan Universitey of Medical Sciences

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Vahid Semnany

Street address

Semnan University of Medical Sciences

City

Semnan

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

Semnan University of Medical Sciences

Full name of responsible person

Elham Fatemy

Position

MSc-Instructor

Other areas of specialty/work

Street address

Semnan University of Medical Sciences

City

Semnan

Postal code

3513138111

Phone

+98 23 1335 4180

Fax

+98 23 1335 4209

Email

fatemyelham@yahoo.com fatemy@sem-ums.ac.ir

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Elham Fatemy

Position

Semnan University of Medical Sciences

Other areas of specialty/work

Street address

MSc

City

Semnan University of Medical Sciences

Postal code

Phone

+98 23 1335 4180

Fax

Email

fatemyelham@yahoo.com fatemy@sem-ums.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Elham Fatemy

Position

Semnan University of Medical Sciences

Other areas of specialty/work

Street address

MSc-Instructor

City

Semnan University of Medical Sciences

Postal code

3513138111

Phone

+98 23 1335 4180

Fax

+98 23 1335 4209

Email

fatemyelham@yahoo.com fatemy@sem-ums.ac.ir

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