

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

Comparison between Whole and Local vibration effect on delayed- onset muscle soreness following eccentric exercises: a comparative clinical trial study

Protocol summary

Summary

Healthy untrained volunteers were randomly assigned to Whole body vibration, Local vibration and control groups. Volunteers performed 6 sets of 10 maximal isokinetic (606/s) eccentric contractions of the dominant-limb knee extensors on a dynamometer. In the Whole body vibration group, the training was applied using a vibratory platform (35 Hz, 5mm peak to peak) with 100 degree of knee flexion for 60 seconds before eccentric exercise. Local vibration group receive local vibration (50 Hz) on the quadriceps tendon for 5 minutes before eccentric exercise. No vibration is applied in the control group. Muscle soreness, thigh circumference, Maximal voluntary isometric knee ex tensor strength and pain are recorded at baseline and at 2 days post exercise.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201604034549N9**

Registration date: **2016-04-13, 1395/01/25**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2016-04-13, 1395/01/25

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

Vice chancellor for research, Semnan University of Medical Sciences

Expected recruitment start date

2016-05-04, 1395/02/15

Expected recruitment end date

2016-06-04, 1395/03/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison between Whole and Local vibration effect on delayed- onset muscle soreness following eccentric exercises: a comparative clinical trial study

Public title

Vibration effect on delayed -onset muscle soreness following exercises.

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Healthy untrained volunteers in the age range 18-30 years. Exclusion criteria: Professional and recreational sports history, diabetes, epilepsy, metabolic or neuromuscular disease, osteoporosis, osteoarthritis, prosthetic, menstrual irregularities, or orthopedic injuries.

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

2

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**

Ethics committee of Semnan University of Medical Sciences

Street address

Kilometer 5, Damghan Road

City

Semnan

Postal code**Approval date**

2016-03-17, 1394/12/27

Ethics committee reference number

IR.Semums.REC.1394.188

Health conditions studied**1****Description of health condition studied**

Delay onset muscle soreness

ICD-10 code

M60- M63

ICD-10 code description

Disorders of muscles

Primary outcomes**1****Description**

Pain

Timepoint

At baseline and 2 days post exercise.

Method of measurement

Visual Analogue Scale(VAS) Questionnaire

2**Description**

Edema

Timepoint

At baseline and 2 days post exercise.

Method of measurement

Thigh circumference measured by tape

3**Description**

Plasma CK activity

Timepoint

At baseline and 2 days post exercise.

Method of measurement

Blood sample assessment.

4**Description**

Isometric Quadriceps strength

Timepoint

At baseline and 2 days post exercise.

Method of measurement

Isokinetic dynamometer

Secondary outcomes

empty

Intervention groups**1****Description**

In order to produce Delay muscle soreness, Volunteers performed 6 sets of 10 maximal isokinetic (606/s) eccentric contractions of the dominant-limb knee extensors on a dynamometer.

Category

Other

2**Description**

In the Whole body vibration group, the training was applied using a vibratory platform (35 Hz, 5mm peak to peak) with 100 degree of knee flexion for 60 seconds before eccentric exercise.

Category

Rehabilitation

3**Description**

In Local vibration group the training was applied using local vibration(50 Hz) on the quadriceps tendon for 5 minutes before eccentric exercise.

Category

Recruitment centers

1

Recruitment center

Name of recruitment center

The Rehabilitation Center of Tabatabaee

Full name of responsible person

Elham Fatemy

Street address

Mashahir Square, in front of Helal Ahmar

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Semnan University of Medical Sciences

Full name of responsible person

Ali Rashidipour

Street address

Kilometer 5, Damghan Road

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Semnan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice chancellor for 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

Elham Fatemy

Position

MS.c-Instructor

Other areas of specialty/work

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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