

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jul 2026

The effect of Vibration on the muscle flexibility in female subjects with hamstring shortening: a randomized trial

Protocol summary

2010-11-26, 1389/09/05

Summary

Objective: Hamstring shortening may cause postural defect and gait abnormality. Recently, it has been showed that application of whole body vibration may increase muscle flexibility in normal subject. This study has been designed to find the effect of local hamstring vibration on the hamstring shortening. Methods: 30 non-athletic females (aged 18-22 yrs) who suffer from more than 15 degree hamstring shortness were participated in the study (inclusion criteria). exclusion criteria is neuromuscular or musculoskeletal conditions, deformities and history of lower limb fractures. Then the subjects were assigned in one of the two experimental groups; vibration group (3 times a week for 8 weeks) and control group (no intervention). The subjects in both groups were not allowed to perform any sport activity during 8 weeks of study. Before and after the intervention, the rate of hamstring muscle shortness was evaluated by passive knee extension (PKE) test. In the experimental group, Intervention included Vibration training sessions over the middle line of the posterior aspect of thigh as follows: first and second week: three sets of 20 secs (with 1 min rest); third and fourth week: three sessions of 30 secs with 1 min rest; fifth and sixth week: three sets of 45 secs (with 45 secs rest). Seventh and eighth week: 4 sets of 1 min (with 1 min rest).

Registrant information

Name

Amir Hoshang Bakhtiary Davijani

Name of organization / entity

Semnan University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2010-05-22, 1389/03/01

Expected recruitment end date

2010-12-30, 1389/10/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201011031254N6**

Registration date: **2010-11-26, 1389/09/05**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

Scientific title

The effect of Vibration on the muscle flexibility in female subjects with hamstring shortening: a randomized trial

Public title

Vibration may improve flexibility in subjects with hamstring shortening

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: more than 15 degree Hamesting shortening Exclusion criteria: neuromuscular or

musculoskeletal conditions, deformities and history of lower limb fractures

Age

From **18 years** old to **22 years** old

Gender

Female

Phase

4

Groups that have been masked

No information

Sample size

Target sample size: **30**

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

Deputy of education and research, Basij Boulevard

City

Semnan

Postal code

Approval date

2010-05-10, 1389/02/20

Ethics committee reference number

A/2412

Health conditions studied

1

Description of health condition studied

Muscle shortening

ICD-10 code

M62.4

ICD-10 code description

Contracture of muscle

Primary outcomes

1

Description

Passive knee extension angle

Timepoint

Before and after 8 weeks intervention

Method of measurement

The passive knee extension angle will be measured by hand-held goniometer

Secondary outcomes

empty

Intervention groups

1

Description

In experimental group: local vibration is applied over the middle line of the posterior aspect of thigh as follows: first and second week: three sets of 20 secs (with 1 min rest); third and fourth week: three sessions of 30 secs with 1 min rest; fifth and sixth week: three sets of 45 secs (with 45 secs rest). Seventh and eighth week: 4 sets of 1 min (with 1 min rest)

Category

Rehabilitation

2

Description

In control group: No intervention was applied

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Musculoskeletal Rehabilitation Research Center

Full name of responsible person

Amir Hoshang Bakhtiary

Street address

Ghods Boulevard

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Vahid Semnani

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Deputy of Education and Research, Basij Boulevard

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

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empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty