Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The effect of whole body vibration on knee extensors strength, dynamic balance and functional activity of lower limb in athlete and non-athlete Subjects

Protocol summary

Summary

Objective: The aim of this study is to compare the effect whole body vibration on lower limbs functional activity, knee extensors muscles strength and dynamic balance in the healthy athlete and non-athlete subjects. Design: This is a non-randomized clinical trial study with no control group. Setting: 40 healthy students including 20 athletes and 20 non-athlete subjects will participate in this study. Inclusion and Exclusion: The main inclusion criteria are healthy volunteer athlete and non-athlete students aged between 18-30 years old who will refer to Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences. The main exclusion criteria are irregular participation during the training session, any neuromusculoskeletal and cardiopulmonary problems during training session and some problems such as LBP, tumors, migraine, vertigo, DVT, hip, knee and ankle joints deformities and pregnancy. Intervention: Whole body vibration will be applied 6 sessions (3 times per week) for each participant. The frequency of device is 35 Hz and the amplitude 2 mm. Each session will be included 10 sets of vibration training with 1 min. vibration and 1 min. rest between 2 sets. Main Outcome Measures: After intervention, vertical jump height, knee extensors muscles torque and dynamic stability indices will be investigated and compared between athlete and non-athlete participants.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015060222539N1**
Registration date: **2015-08-23, 1394/06/01**
Registration timing: **prospective**
Last update:
Update count: **0**

Registration date

2015-08-23, 1394/06/01

Registrant information

Name
Ziaeddin Safavi Farokhi
Name of organization / entity
Semnan University of Medical Sciences
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Iran (Islamic Republic of)
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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Semnan University of Medical Sciences

Expected recruitment start date

2015-09-01, 1394/06/10

Expected recruitment end date

2015-10-17, 1394/07/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of whole body vibration on knee extensors strength, dynamic balance and functional activity of lower limb in athlete and non-athlete Subjects

Public title

The effect of whole body vibration on athlete and non-athlete subjects

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: Healthy volunteer athletes (football and volleyball players) who participate in their sport 3 sessions per week and non-athlete students aged between 18-30 years old. Exclusion criteria: Irregural participation during the trainnig sessions; any neuromuscular or musculoskeletal and cardiopulmonary problems during training sessions; some problems such as LBP; tumors; migraine; vertigo; DVT; any lower limb joint deformity; pregnancy; lower limbs fracture during last 1 year; any severe trauma in trunk or lower limbs during last 3 months.

Age

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

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

N/A

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

Semnan, Kilometer 5 of Damghan Road, Semnan University of Medical Sciences

City

Semnan

Postal code

Approval date

2015-05-19, 1394/02/29

Ethics committee reference number

IR.semums.rec.1394.6

Health conditions studied

1

Description of health condition studied

Injury of knee and lower leg

ICD-10 code

S80-S89

ICD-10 code description

Injury of muscle and tendon at lower leg level

Primary outcomes

1

Description

Vertical Jump Height

Timepoint

Before and immediately after intervention

Method of measurement

CM by Meter

2

Description

Muscle Torque

Timepoint

Before and immediately after intervention

Method of measurement

N/M By isokinetic dynamometer

3

Description

Dynamic Balance

Timepoint

Before and immediately after intervention

Method of measurement

Degree by Biodex Balance System

Secondary outcomes

empty

Intervention groups

1

Description

In athlete group 6 sessions (3 sessions per week) of whole body vibration training will be done. In this study the applied frequency will be 35 Hz and the amplitude will be 2 mm.10 sets of training will be done in each session. Each set will be included 1 minute vibration with 1 minute rest between 2 sets.

Category

Prevention

2

Description

In non-athlete group 6 sessions (3 sessions per week) of

whole body vibration training will be done. In this study the applied frequency will be 35 Hz and the amplitude will be 2 mm.10 sets of training will be done in each session. Each set will be included 1 minute vibration with 1 minute rest between 2 sets.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences

Full name of responsible person

Ziaeddin Safavi Farokhi

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

City

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

Ziaeddin Safavi Farokhi

Position

Ph.D, Assistant Professor

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