

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

The Immediate Effects of Whole Body Vibration on Reaction Time and Anticipatory Skill in Subjects with and without Lumbar Hyperlordosis

Protocol summary

Summary

According to the evidences, subjects with musculoskeletal disorders, have neurocognition disorders too. There is some evidence on sensory receptors impairment in hyperlordosis and it seems that neurocognition changes in these subjects is occurred. In another way, according to the effects of whole body vibration on central nervous system and musculoskeletal system, the aim of this study is to evaluate the effects of this intervention on decreasing the reaction time in hyperlordotic subjects. 40 Subjects will be selected among students of school of Rehabilitation of TUMS according to the inclusion and exclusion criteria and entered in to the experimental vs control group based on lumbar lordosis measure (20 subjects with hyperlordosis and 20 normal subjects). Subjects with normal lordosis will be matched with experimental group according to the age, gender and BMI. Lumbar lordosis measurement will be done by use of flexible ruler. Then reaction time and anticipation estimation will be assessed by SART software that its validity and reliability has been established before. Then the subjects will apply WBV by Power Plate instrument (30 Hz,amp 5 mm,5 set of 1 min and 30 sec intervals). Immediately after WBV, reaction time tests and anticipation skills will be repeated.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017031112210N5**

Registration date: **2017-06-16, 1396/03/26**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-06-16, 1396/03/26

Registrant information

Name

Azadeh Shadmehr

Name of organization / entity

Teharn University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for Research, Tehran University of Medical Sciences

Expected recruitment start date

2017-04-21, 1396/02/01

Expected recruitment end date

2017-08-23, 1396/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Immediate Effects of Whole Body Vibration on Reaction Time and Anticipatory Skill in Subjects with and without Lumbar Hyperlordosis

Public title

The Immediate Effects of Whole Body Vibration on Reaction Time and Anticipatory Skill

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria for healthy group: 18 to 32 year old females with normal lumbar curve (30 - 40 degrees).

Inclusion criteria for hyperlordosis group: 18 to 32 year old females with lumbar curve more than 40 degrees. Exclusion criteria: lumbar surgery, chronic or acute diseases such as neurologic, cardiac and metabolic disease; serious hearing or visual disorders or color blindness; stimulant drugs or drinks (tea, coffee, alcohol, chocolate) before test; unwillingness to participate in the study; less than high school diploma.

Age

From **18 years** old to **32 years** old

Gender

Female

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 Tehran University of Medical Sciences

Street address

Tehran University of Medical Sciences, at the corner of Ghods St, Keshavarz Blvd

City

Tehran

Postal code**Approval date**

2016-09-07, 1395/06/17

Ethics committee reference number

IR.TUMS.VCR.REC.1395.581

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

lumbar hyperlordosis

ICD-10 code

M40.4

ICD-10 code description

Other lordosis

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

Complex auditory choice reaction time

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

2**Description**

Visual choice reaction time

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

3**Description**

Complex visual choice reaction time

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

4**Description**

Auditory choice reaction time

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

5**Description**

Low speed anticipatory skill

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

6**Description**

High speed anticipatory skill

Timepoint

Before and immediately after intervention

Method of measurement

SART Software

Secondary outcomes

empty

Intervention groups

1

Description

whole body vibration by use of Power Plate instrument ,F
30Hz,Amp 5 mm, 5 sets of 1 min with 30 S interval rest.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

School of Rehabilitation, Tehran University of Medical
Sciences

Full name of responsible person

Sara Freidoonnia

Street address

School of Rehabilitation, Tehran University of Medical
Science, Piche Shemiran, Enghelab Street

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for research of Tehran University of
Medical Sciences

Full name of responsible person

Masood Younesian

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Tehran University of Medical Science, at the corner of
Ghods street, Keshavarz boulevard

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Tehran

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 of Tehran 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

Tehran University of Medical Science

Full name of responsible person

Sara Freidoon nia

Position

PhD candidate/researcher

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