

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

28 Jun 2026

### A comparison between two protocol, whole body vibration and exercise therapy, on pain, performance and balance among 20-40 years-old athletes with patellofemoral pain syndrome

#### Protocol summary

##### Summary

In this study we want to exam the effect of whole body vibration training on pain, balance and performance. The aim of this study was to compare the effect of WBV Training and exercise therapy on pain, performance and balance in athletics person with patellofemoral pain syndrom. To this end, 28 athletes between the ages of 20-40 years with a diagnosis of patellofemoral pain syndrome attended to orthopedic and physiotherapy clinics affiliated to Shiraz University of Medical Sciences were selected and Randomly divided into the intervention and the control groups. Blocked randomization method was used for randomization. Treatment in the intervention group included 4 weeks WBV Training(12 sessions), each session included 5 sets of one minute duration with one minute rest between each set. The position of person was squat with 30 degree knee flexion. Frequency and amplifier is 30HZ and 3 mm. In control group, treatment included 4 weeks exercise therapy (12 sessions). The pain, performance and balance were measured before starting the treatment sessions, immediately after the end of sessions and and two weeks after completion of treatment and compared between both groups. Visual analogue scale Used to measure the pain intensity, leg press test and Kujala Questionnaire were used to measure the performance and Balance error scoring system and SEBT (Star Excursion Balance Test) were used to measure the balance.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016020624149N6**

Registration date: **2016-06-16, 1395/03/27**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2016-06-16, 1395/03/27

##### Registrant information

###### Name

Fahimeh Kamali

###### Name of organization / entity

Shiraz University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 71 1627 1551

###### Email address

kamalif@sums.ac.ir

##### Recruitment status

###### Recruitment complete

##### Funding source

Vice chancellor for research, Shiraz University of Medical Sciences

##### Expected recruitment start date

2016-01-21, 1394/11/01

##### Expected recruitment end date

2016-05-21, 1395/03/01

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

A comparison between two protocol, whole body vibration and exercise therapy, on pain, performance and balance among 20-40 years-old athletes with patellofemoral pain syndrome

## Public title

Effect of whole body vibration training on pain, performance and balance in athletes with patellofemoral pain syndrome

## Purpose

Treatment

## Inclusion/Exclusion criteria

Inclusion criteria: antro or retropatellar pain that is induced during step up and down, jumping up and running, squat, prolonged sitting; onset of symptoms has not been associated with traumatic factors; pain induction during patellar palpation; onset of symptom less than one year; the age range between 20-40years; only one leg involvement; at least one of below tests being positive: patellar apprehension test, vastus Medialis coordination test, step down eccentric test. exclusion criteria: symptoms duration for less than one month; existence of other lesions in the lower limb; surgery and fractures of lower extremity; history of patellar dislocation; usage of NSAIDs; signification injuries which affect other lower extremities joints; people who must not use WBV including acute fracture, lower limb amputation, acute damage of soft tissue, osteoporosis with vertebral fracture, acute disc herniation, recent surgery, acute edema, hip and knee endoprosthesis, urinary incontinence, headache, epilepsy.

## Age

From **20 years** old to **40 years** old

## Gender

Both

## Phase

2

## Groups that have been masked

*No information*

## Sample size

Target sample size: **28**

## Randomization (investigator's opinion)

Randomized

## Randomization description

## Blinding (investigator's opinion)

Single blinded

## Blinding description

## Placebo

Not used

## Assignment

Parallel

## Other design features

Blocked randomization method is used for randomization

## Secondary Ids

### 1

#### Registry name

-

#### Secondary trial Id

-

#### Registration date

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Sciences Ethics committee of Shiraz University of Medical Sciences

##### Street address

Central Building of Shiraz University of Medical Sciences, Zand Blvd, Shiraz

##### City

Shiraz

##### Postal code

##### Approval date

2015-12-13, 1394/09/22

##### Ethics committee reference number

IR.SUMS.REC.1394.168

## Health conditions studied

### 1

#### Description of health condition studied

patellofamorol pain syndrom

#### ICD-10 code

M70.8

#### ICD-10 code description

Other soft tissue disorders related to use, overuse and pressure

## Primary outcomes

### 1

#### Description

pain

#### Timepoint

Before the onset of the treatment, at the end of the treatment period, two weeks after the end of the treatment period

#### Method of measurement

VAS (visual analog scale)

### 2

#### Description

Balance

#### Timepoint

Before the onset of the treatment, at the end of the treatment period, two weeks after the end of the treatment period

#### Method of measurement

Balance error scoring system; SEBT(star excursion balance test)

### 3

#### Description

Performance

#### Timepoint

Before the onset of the treatment, at the end of the

treatment period, two weeks after the end of the treatment period

#### Method of measurement

Leg press, Kujala Questionnaire

## Secondary outcomes

1

#### Description

-

#### Timepoint

-

#### Method of measurement

-

## Intervention groups

1

#### Description

control group:exercise therapy .. included: patellar mobilization,rasistance training, flexibility, stretching and balance exercise

#### Category

Treatment - Other

2

#### Description

Intervention group: Whole body vibration Training  
Treatment was done 4 sessions per week for 4 weeks  
.Each session includes 5 sets of one minute duration with one minute rest between each two sets.

#### Category

Treatment - Other

## Recruitment centers

1

#### Recruitment center

##### Name of recruitment center

Orthopedic and Phisiotherapy Clinics affiliated to Shiraz University of Medical Sciences

##### Full name of responsible person

Najmeh Shadlou

##### Street address

Shiraz

##### City

Shiraz

## Sponsors / Funding sources

1

#### Sponsor

##### Name of organization / entity

Vice chancellor for research, Shiraz University of Medical Sciences

##### Full name of responsible person

Basir Hashemi

#### Street address

Central Building of Shiraz University of Medical Science, Zand Blvd, Shiraz

#### City

Shiraz

#### 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, Shiraz 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

School of Rehabilitation Science

##### Full name of responsible person

Najmeh Shadloo

##### Position

MS Student of Physiotherapy

##### Other areas of specialty/work

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## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

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Dr fahimeh Kamali

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Associate Professor

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## Person responsible for updating data

### Contact

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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*