

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 Jun 2026

The effects of whole body vibration with exercise therapy vs exercise therapy alone on flexibility, vertical jump, agility and pain in athletes with patellofemoral pain syndrome

Protocol summary

Study aim

The aim of this study is to determine the effects of whole body vibration and exercise therapy with exercise therapy alone on the parameters of flexibility, vertical jump, agility and pain in athletes with patellofemoral pain syndrome.

Design

In this study, 24 patients with patellofemoral pain syndrome who have the inclusion criteria are select and randomly divided into two groups of intervention and control.

Settings and conduct

In this study, the effect of whole body vibration and exercise therapy are investigated before and one month later the intervention on the vertical jump, flexibility, agility and pain and the location of the study is the Clinic of Yazd Medical Sports Medicine; this is also blinded that the examiner will not be aware of which intervention will be administered to which subject. The patients aware of the existence of two different groups, but do not know about their groups (intervention or control).

Participants/Inclusion and exclusion criteria

Inclusion criteria are the people with antro or retro patellar pain, unilateral involvement, sports with leap and jump and exclusion criteria are history of dislocation or subluxation of the patella, history of the hip, knee or ankle surgery.

Intervention groups

The control group will undergo exercise therapy 3 times per week for four weeks; whereas intervention group undergo exercise therapy in addition to whole body vibration training 3 times per week for four weeks.

Main outcome variables

Measured variables include: flexibility, vertical jump, agility and pain

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20090831002391N39**

Registration date: **2018-02-07, 1396/11/18**

Registration timing: **registered_while_recruiting**

Last update: **2018-02-07, 1396/11/18**

Update count: **0**

Registration date

2018-02-07, 1396/11/18

Registrant information

Name

Zahra Rojhani Shirazi

Name of organization / entity

Shiraz University of Medical Sciences, School of Rehabilitation Sciences

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-02-03, 1396/11/14

Expected recruitment end date

2018-04-30, 1397/02/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of whole body vibration with exercise therapy vs exercise therapy alone on flexibility, vertical jump, agility and pain in athletes with patellofemoral pain syndrome

Public title

Effects of whole body vibration on flexibility, vertical jump, agility and pain

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

18-40 years male athletes Antro or retropatellar pain
Physical activity at least 3 times a week for 2 hours
Unilateral involvement Sports with leap and jump (soccer, volleyball, basketball, futsal and handball)
Report the pain at least in two of the activities of running, jumping, prolonged sitting, step up and down and squat At least one of the tests being positive: step down eccentric test, patellar apprehension test, vastus medialis coordination test

Exclusion criteria:

History of dislocation or subluxation of the patella History of hip, knee or ankle surgery Other lesion on the knee associated with this lesion Kidney stone Diabetes Cardiovascular diseases Epilepsy Recent fracture Gallstone Acute disk herniation Recent surgery Acute arthritis Pacemaker

Age

From **18 years** old to **40 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Assignment of patients in two groups of test and control was done by Block Balanced Randomization (BBR) method. The Randomization Sequence is generated with using the free web site at <http://www.randomization.com>.

Blinding (investigator's opinion)

Double blinded

Blinding description

The examiner will not be aware of which intervention will be administered to which subject. The patients aware of the existence of two different groups, but do not know about their groups (treatment or control).

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of research in Shiraz University of Medical Science

Street address

Central building of Shiraz University of Medical Science, Zand Ave

City

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Postal code

7134814336

Approval date

2017-12-10, 1396/09/19

Ethics committee reference number

IR.SUMS.REC.1396.138

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

Patellofemoral Pain Syndrome

ICD-10 code

M22.2X9

ICD-10 code description

Patellofemoral disorders, unspecified knee

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

The effect of the whole body vibration training on flexibility

Timepoint

Before and 1 month after intervention

Method of measurement

Flexibility with sit and reach test

2**Description**

The effect of the whole body vibration training on agility

Timepoint

Before and 1 month after intervention

Method of measurement

Agility with modified t-test

3

Description

The effect of the whole body vibration training on vertical jump

Timepoint

Before and 1 month after intervention

Method of measurement

Vertical jump by vertical jump test

4

Description

The effect of the whole body vibration training on pain

Timepoint

Before and 1 month after intervention

Method of measurement

Evaluation of pain by the visual analogue scale

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: In the intervention group, exercise therapy with whole body vibration training with frequency of 50 Hz and amplitude of 4 mm and for 2 sets 60 seconds with 30 second rest between sets are performed for 4 weeks and three times a week.

Category

Treatment - Other

2

Description

Control group: In the control group, exercise therapy is performed for 4 weeks and three times per week.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Yazd Sports Medicine Board

Full name of responsible person

Ebrahim Rasti Esmat Abad

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Shiraz University of Medical Sciences

Full name of responsible person

Seyed Basir Hashemi

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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

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

School of Rehabilitation Sciences

Full name of responsible person

Ebrahim Rasti Esmat Abad

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

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Person responsible for scientific inquiries

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available