Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The evaluation of the effects of core stabilization exercise on balance,performance and pain in individuals with patellofemoral pain syndrome

Protocol summary

Summary

The goal of this research is to evaluate the effects of core neuromuscular training on pain, balance and functional performance in women with patellofemoral pain syndrome. Inclusion criteria for this study are: anterior knee pain in recent 2 months; positive patellar grind test; kujala score ranging from 50 to 80; visual analog score ranging from 3 to 10. Exclusion criteria for this study are: other knee joint pathologies such as meniscus and ligament injuries, osteoarthritis, tendon impairments and patellar dislocations; referral pain from other joints; lower extremity surgeries; neuromuscular and metabolic diseases. 28 females with PFPS are randomly assigned into intervention (14 people) and control group (14 people). Both groups receive the same conventional physical therapy for 4 weeks, while intervention group receive core stabilization exercise as well. Balance, performance and pain in both groups are assessed by Y balance test, kujala questionnaire, step down test and VAS before and after treatment.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014021315932N2**
Registration date: **2014-08-16, 1393/05/25**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2014-08-16, 1393/05/25

Registrant information

Name

Alireza Motealleh

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 71 1626 5108

Email address

motealleh@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Rehabilitation school, Shiraz University of Medical Sciences

Expected recruitment start date

2013-02-22, 1391/12/04

Expected recruitment end date

2013-08-23, 1392/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The evaluation of the effects of core stabilization exercise on balance,performance and pain in individuals with patellofemoral pain syndrome

Public title

The effects of trunk stabilization exercise on anterior knee pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: anterior knee pain in recent 2 months; gradual and non traumatic onset of symptoms; positive patellar grind test; kujala score ranging between 50 to

80; visual analog score ranging from 3 to 10 in last past month. Exclusion criteria: other knee joint pathologies such as meniscus and ligament injuries,osteoarthritis,tendon impairments and patellar dislocations; hip and lumbar referral pain; previous lower extremity surgeries; neuromuscular and methabolic diseases such as diabet; cardiac disorders impeding exercise

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

Gender
Female

Phase
N/A

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

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Shiraz University of Medical Science

Street address
Shiraz University of Medical Sciences, Zand street, Shiraz, Fars, Iran

City
Shiraz

Postal code

Approval date
2013-10-06, 1392/07/14

Ethics committee reference number
CT-P-92-5724

Health conditions studied

1

Description of health condition studied
patellofemoral pain syndrome

ICD-10 code
M22.2

ICD-10 code description
Patellofemoral disorders

2

Description of health condition studied
Chondromalacia patellae

ICD-10 code
M22.4

ICD-10 code description
Chondromalacia patellae

Primary outcomes

1

Description
Pain

Timepoint
Immediately before treatment -immediately after treatment (after 4 weeks)

Method of measurement
VAS

2

Description
Balance

Timepoint
Immediately before treatment -immediately after treatment (after 4 weeks)

Method of measurement
Star excursion balance test

3

Description
knee Function

Timepoint
Immediately before treatment -immediately after treatment (after 4 weeks)

Method of measurement
kujala questionnaire and Knee performance tests

Secondary outcomes

empty

Intervention groups

1

Description
control group: 1.Hamstring, ITB and gastrocnemius stretching 30 sec hold for 5 repetitions 2. Quadriceps setting: 10 repetition 10 sec hold 3. SLR: 3 set 10 seconds hold 4. Forward step up: 3 set of 10 repetitions 5. Squat with 30˚ knee flexion: 3 set 10 seconds hold 6. Lateral step up: 3 set 10 seconds hold

Category
Rehabilitation

2

Description
Intervention group: the same as control group plus following core neuromuscular training: 1-bridging while holding a small ball between knees (3 set 10 seconds hold) 2- sidelying hip abduction(clam exercise)(6 repeat 10 seconds hold) 3-Lat SLR (3 set 10 seconds hold) 4-curl up while holding a small ball between bent knees (5 repeat 10 seconds hold) 5-Isometric hip abduction in standing position (15 repeat 5 seconds hold) 6-Intermitent shoulder flexion/extension while standing on afflicted limb (15 repeat 5 seconds hold) 7-Trunk rotation toward healthy side While maintaining hip internal rotation in standing position on the afflicted leg (15 repeat 5 seconds hold) 8- curl up while holding a small ball between straight knees (6 repetition 10 seconds hold) 9- Lat curl up while holding a small ball between straight knees(6 repetition 10 seconds hold

Category
Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center
Rehabilitation school, Shiraz University of Medical Sciences

Full name of responsible person
Dr. Alireza Motealleh

Street address
NO.32, Abiverdi 1 Avenue, Chamran Blvd, Shiraz, Fars, Iran

City
Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Shiraz University of Medical Sciences, Rehabilitation School

Full name of responsible person
Dr. Gholamreza Hatam

Street address
Shiraz University of Medical Sciences, Zand street, Shiraz, Fars, Iran

City
Shiraz

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Shiraz University of Medical Sciences, Rehabilitation School

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
Shiraz University of Medical Sciences

Full name of responsible person
Nazanin Nejati

Position
Student

Other areas of specialty/work

Street address
Abrishami Street, Gaz Square, Shiraz,Fars, Iran

City
Shiraz

Postal code

Phone
+98 71 1227 5139

Fax

Email
nazinej@gmail.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity
Shiraz University of Medical Sciences

Full name of responsible person
Dr. Alireza Motealleh

Position
Assistant professor of physiotherapy

Other areas of specialty/work

Street address
NO.32, Abiverdi 1 Avenue, Chamran Blvd, Shiraz ,Fars, Iran

City
Shiraz

Postal code

Phone
+98 71 1626 5108

Fax

Email
motealleh@sums.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity
Shiraz University of Medical sciences

Full name of responsible person
Dr. Alireza Motealleh
Position
Assistant professor
Other areas of specialty/work
Street address
NO.32, Abiverdi 1 Avenue, Chamran Blvd, Shiraz ,Fars, Iran
City
Shiraz
Postal code
Phone
+98 71 1626 5108
Fax
Email
motealleh@sums.ac.ir
Web page address

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