Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The effect of postural control training using unstable sitting on knee joint pain and function in patients with patellofemoral pain syndrome

Protocol summary

Summary

The purpose of this study is to evaluate the effect of core postural control training using unstable sitting on pain and function in patients with patellofemoral pain syndrome. Patients with patellofemoral pain syndrome complaining gradual anterior knee pain during last 3 months and age between 18 to 45 years old are included. The patients with any previous knee trauma or other pathologies such as meniscus and ligament injuries are excluded. Minimal sample size for this study was determined as 15 patients in each group. Patients will randomly assigned either to control or intervention groups. Both groups will receive conventional physical therapy exercises for patellofemoral pain syndrome during 4 weeks (12 sessions), while the intervention group will receive core postural control training using unstable sitting devise as well. Variables including pain intensity, function via Kujula questionnaire, functional step down test and postural control of trunk and core region will be measured for each patient in first and 12th sessions.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016120415932N12**
Registration date: **2017-01-07, 1395/10/18**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2017-01-07, 1395/10/18

Registrant information

Name

Alireza Motealleh

Name of organization / entity

Shiraz University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Rehabilitation Faculty of Shiraz University of Medical Sciences

Expected recruitment start date

2017-01-20, 1395/11/01

Expected recruitment end date

2017-06-05, 1396/03/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of postural control training using unstable sitting on knee joint pain and function in patients with patellofemoral pain syndrome

Public title

The effect of core training using unstable sitting in patients with patrllofemoral pain syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Women aged 18 to 45 years old with unilateral or bilateral patellofemoral pain syndrome; anterior or retropatellar knee pain during at least 2 following activities: prolonged sitting, ascending or descending stair,squatting, kneeling, jumping and

running; pain on palpation of medial and lateral patellar facets and positive patellar grind test; an insidious onset of symptoms not related to trauma for the last 3 months; Kujula scores less than 85 out of 100; numeric rate scale scores ranging 3 to 10 during last week. Exclusion criteria: Other knee joint pathologies such as meniscus and ligament injuries, osteoarthritis and tendon impairments; patellar subluxations or dislocations; referral pain from other joints including lumbar spine, hip and sacroiliac joints and spinal fractures; previous knee surgery; neuromuscular, metabolic and rheumatology diseases; pregnancy.

Age
From **18 years** old to **45 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **30**

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 Sciences

Street address
Central Building of Shiraz University of Medical Sciences, Zand street, Shiraz

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Shiraz

Postal code

Approval date
2016-07-17, 1395/04/27

Ethics committee reference number
IR.SUMS.REC.1395.69

Health conditions studied

1

Description of health condition studied
Patellofemoral pain syndrome

ICD-10 code
M22.2

ICD-10 code description
Patellofemoral disorders

Primary outcomes

1

Description
Postural control of trunk and core

Timepoint
First and 12th sessions

Method of measurement
Force plate

2

Description
Pain intensity

Timepoint
First and 12th sessions

Method of measurement
Numeric Rate Scale (NRS)

Secondary outcomes

1

Description
Functional steping

Timepoint
First and 12th sessions

Method of measurement
Step down test

2

Description
Function

Timepoint
First and 12th sessions

Method of measurement
kujula questionnaire

Intervention groups

1

Description
Intervention group: The same as control group plus postural control training exercise using unstable sitting. Patients will be asked to control their balance on unstable sitting and hold it as long as possible (3 set, 6 minutes). In order to progress the training, 3 unstable sitting with 3 different diameters (24, 30 and 50 cm) are provided.

Category
Rehabilitation

2

Description
Control group: Stretching exercises for quadriceps, hamstring, illiotibial band and calf muscles (3 repetition, 30 second hold); quadriceps setting, terminal knee extention, straight leg raise and hip abductor and external rotator strengthening exercise (3 set, 10 second hold).
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Physiotherapy clinic of Shiraz School of Rehabilitation
Full name of responsible person
Dr. Alireza Motealleh
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Sponsors / Funding sources

1

Sponsor
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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
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

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Person responsible for updating data

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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