

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

clinical effectiveness of functional training versus strengthening exercise on pain and function in people with patellofemoral pain syndrome

Protocol summary

Summary

Objective: To investigate the effectiveness of functional training versus strengthening exercise on pain and function in people with patellofemoral pain syndrome
Design of study: Double blind randomized controlled clinical trial
Subjects: People with patellofemoral pain syndrome
Inclusion criteria: Subjects of 18-45 y age; insidious onset of symptoms not related to trauma; peripatellar or retropatellar knee pain during at least 2 of activities of stair climbing, hopping, running, squatting, kneeling and prolonged sitting; presence of pain at least 4 weeks; presence of pain at least 30 minutes per day most days of week; pain with compression on the patella; pain on palpation of patellar facet; pain level 3 of a 10-cm visual analog scale
Exclusion criteria: Meniscal, ligamentous or cartilage injury; patellar tendon, iliotibial band or pes anserine tenderness; evidence of effusion; hip or lumbar referred pain; history of recurrent patellar subluxation or dislocation; patellar fracture; prolonged use of anti-inflammatory drug or corticosteroid; history of head injury or vestibular disorder within the last 6 months; pregnancy; trauma to knee joint; history of lower extremity surgery; osgood-schlatter or sindig-larsen-johanssen syndromes
sample size: 30 subjects with patellofemoral pain syndrome
Interventions: The subjects are randomly assigned to strengthening exercise group and functional training group
main outcome measures: pain, subjective and objective function is measured before and after intervention. pain intensity is quantified using a 10-cm visual analog scale, subjective function is assessed using kujala patellofemoral scale and objective function is also examined using performance functional tests

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138809092793N1**

Registration date: **2015-07-20, 1394/04/29**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-07-20, 1394/04/29

Registrant information

Name

Shahla Zahednejad

Name of organization / entity

School Of Rehabilitation Sciences

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Recruitment status

Recruitment complete

Funding source

Ahvaz Jundishapur University Of Medical Sciences

Expected recruitment start date

2015-05-22, 1394/03/01

Expected recruitment end date

2016-01-20, 1394/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

clinical effectiveness of functional training versus strengthening exercise on pain and function in people with patellofemoral pain syndrome

Public title

The influence of exercise on pain and function in people with knee pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: subjects 18-45 y age; insidious onset of symptoms not related to trauma; peripatellar or retropatellar knee pain during at least 2 of activities of stair climbing, hopping, running, squatting, kneeling and prolonged sitting; presence of pain at least 4 weeks; presense of pain at least 30 minutes per day most days of week; pain with compression on the patella; pain on palpation of patellar facets; pain level 3 of a 10-cm visual analog scale Exclusion criteria: meniscal, ligamentus or cartilage injury; patellar tendon, iliotibial band or pesanserine tenderness; evidence of effusion; hip or lumbar referred pain; history of recurrent patellar subluxation or dislocation; patellar fracture; prolonged use of anti inflammatory drug or corticosteroid; history of head injury or vestibular disorder within the last 6 months; pregnancy; trauma to knee joint; history of lower extremity surgery; osgood-schlatter or sinding-larsen-johanssen syndromes

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)**

Double blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Musculoskeletal Rehabilitation Research Center

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Musculoskeletal Rehabilitation Research Center,
School Of Rehabilitation Sciences, Ahvaz Jundishapur
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Postal code

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Approval date

2015-04-29, 1394/02/09

Ethics committee reference number

lr.ajums.rec.1394.27

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

patellofemoral pain syndrome

ICD-10 code

M22.8

ICD-10 code description

other disorders of patella

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

pain

Timepoint

before and after intervention

Method of measurement

visual analog scale

2**Description**

subjective function

Timepoint

before and after intervention

Method of measurement

kujala scale

3**Description**

objective function

Timepoint

before and after intervettion

Method of measurement

performance functional test

Secondary outcomes

empty

Intervention groups**1****Description**

intervetion 1: hip and knee strengthening exercise
include strengthening of quadriceps muscle and
abductor and external rotator hip muscles

Category

Treatment - Other

Description

intervention 2: functional training include fast walking, ascending and descending of stair platform, ascending and descending on ramp, lateral step down and single leg anterior reach task

Category

Treatment - Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Musculoskeletal Rehabilitation Research Center

Full name of responsible person

Zohre Ghomayshi

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

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Full name of responsible person

Dr. Nader Saki

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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

Ahvaz Jundishapur University Of Medical Sciences, Research Development

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**

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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