Clinical Trial Protocol
Iranian Registry of Clinical Trials

15 Jun 2026

Comparison of the effect of lumbopelvic manipulation,with lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles on pain and function of athletes knee with patellofemoral pain syndrome (PFPS)

Protocol summary

Study aim
Comparison of the effect of lumbopelvic manipulation,with lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles on pain and function of athletes knee with patellofemoral pain syndrome (PFPS)

Design
Clinical trial with two comparison groups, with parallel groups, one-way blind, randomized, sample size of 30 people, blocked randomization

Settings and conduct
The two groups of lumboplevic manipulation and lumboplevic manipulation and dry needle of the quadratus lumbarm and gluteus medius muscles are performed in Shiraz Rehabilitation School.And evaluation in the first and last session of treatment by the evaluator who is blind to the patients

Participants/Inclusion and exclusion criteria
Entry requirements : ،Athletes 18 to 45 years of age with unilateral patellar pain syndrome who exercise regularly (at least 3 sessions per week). ،Complaints of anterior knee pain in at least 2 of the following daily activities: sitting for long periods of time, going up and down stairs, squatting, kneeling, jumping and running. ،Report of pain when touching the internal and external patellar procedures , Kajala score score less than 40 out of 80 ،Having at least 3 out of 10 pain levels on a numerical pain scale over the past week No entry conditions: ،Existence of other pathologies of the knee joint such as rupture of meniscus or knee ligaments, wear and tear of the knee joint, tendon problems, dislocation or partial dislocation of the patella ،Hip pathologies ،Radicular pain in the lumbar region and neurological symptoms ،Previous knee surgery ،Contraindications to the use of dry needles

Intervention groups
lumbopelvic manipulation lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles on pain and function of athletes knee with patellofemoral pain syndrome (PFPS)

Main outcome variables
Intensity of pain ; Functional ability

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210315050709N1**
Registration date: **2021-09-14, 1400/06/23**
Registration timing: **prospective**

Last update: **2021-09-14, 1400/06/23**
Update count: **0**

Registration date
2021-09-14, 1400/06/23

Registrant information

Name
Amin Shakouri

Name of organization / entity

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date

2021-09-23, 1400/07/01

Expected recruitment end date

2021-11-22, 1400/09/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of lumbopelvic manipulation,with lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles on pain and function of athletes knee with patellofemoral pain syndrome (PFPS)

Public title

Comparison of the effect of lumbopelvic manipulation,with lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles on pain and function of athletes knee with patellofemoral pain syndrome (PFPS)

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

Athlete 18 to 45 years old with patellofemoral pain syndrome who exercise regularly (at least three times per week) Complain of anterior knee pain at least in 2 of the following activity: sitting for long periods of time, going up and down stairs, squatting, kneeling, jumping and running Pain report when touching internal and external of patella surface and positive clarke test in knee extended and sitting At least be positive result of one of the three following tests:Positive vastus medialis co-ordination test Positive 20 cm going down stair test Positive Patellar apprehension test Gradual start of symptoms without history of trauma or injury for at least past 3 months kujala score level 40 to 70 At least 3 out of 10 score level of NPRS in past tree weeks

Exclusion criteria:

Existence of other pathologies of knee joint such as rupture of meniscus or knee ligaments, knee joint wear, tendon problems, patellar dislocation or partial dislocation, Sinding-Larsen disease, Osgood-Schlatter disease and Plica syndrome, ankle and knee injuries. Pathologies of the hip such as rupture of the ligaments of the thigh, joint wear and tear, tendon problems, dislocation or partial dislocation and injury of the thigh. Structural and biomechanical problems such as: valgus and varus in the knee or femoral anterior Radicular pain in the lumbar region and neurological symptoms (diagnosis with the help of history and lower limb percussion test, dural stretch test) Previous knee surgery Neurological disorders affecting balance Contraindications to using dry needles such as: Existence of metabolic diseases including diabetes, rheumatic diseases To. Pregnancy. Respiratory and cardiovascular problems (Peripheral vascular disease), cancer and any malignancy. Immune system defects. Menstruation. Needle phobia. Bleeding disorders and taking anticoagulants. Liver and kidney diseases

Age

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

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

blocked randomization In this way, we placed 30 cases in blocks and 4-person cases Each block is randomly assigned to the control and intervention group

Blinding (investigator's opinion)

Single blinded

Blinding description

At the beginning of the treatment and at the end of the treatment, she is kept blind. At the beginning, the evaluation is done and at the end, the final evaluation and data recording is done. Initially, the case is studied in an intervention or control group and the therapist performs treatment for each case depending on whether it is control or intervention, but the evaluator is blind at the beginning of the pre-treatment and post-treatment evaluation and not know about the treatment is performed. And the case of treatment

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Shiraz University of Medical Sciences

Street address

School of Rehabilitation, Abiverdi 1 St، Chamran Blvd.

City

shiraz

Province

Fars

Postal code

۱۷۳۳-۷۱۳۴۵

Approval date

2021-02-24, 1399/12/06

Ethics committee reference number

IR.SUMS.REHAB.REC.1400.001

Health conditions studied

1

Description of health condition studied
patella femoral pain syndrom(pfps)
ICD-10 code
M22.2
ICD-10 code description
Patellofemoral disorders

Primary outcomes

1

Description
pain score
Timepoint
At the beginning of the study (before the intervention) and sessions 4 and 1 month later
Method of measurement
Numeric Pain Rating Scale

Secondary outcomes

1

Description
Functional ability
Timepoint
At the beginning of the study (before the intervention) and sessions 4 and 1 month later
Method of measurement
Kojala Questionnaire

2

Description
Functional ability
Timepoint
At the beginning of the study (before the intervention) and sessions 4 and 1 month later
Method of measurement
Lateral plank duration

Intervention groups

1

Description
Control group: lumbopelvic manipulation(In this group, only lumbar-pelvic placment is performed, in which the person is placed in a special position and the technique is performed)
Category
Rehabilitation

2

Description
Intervention group: lumbopelvic manipulation and dry needling of quadratus lumbarom and Gluteus Medius muscles.(In this group, in addition to pelvic lumbar placement in the said muscles, the dry needle technique is also applied)
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Shiraz Faculty of Rehabilitation Sciences
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Sponsors / Funding sources

1

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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

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

Shiraz University of Medical Sciences

Full name of responsible person

Amin Shakouri

Position

Master student shiraz university

Latest degree

Bachelor

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no more information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

Not applicable

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

Not applicable

Data Dictionary

Not applicable