

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jul 2026

The Comparison Of Effectiveness Sensory Motor With Neurofeedback Training Effectiveness On Pain, Balance, Proprioception, and Index Valgus Dynamic Knee in Male With Patellofemoral Pain Syndrome

Protocol summary

Study aim

The Comparison Effectiveness of Sensory Motor With Neurofeedback Training Effectiveness on Pain, Balance, Proprioception, And Index Valgus Dynamic Knee In Male With Patellofemoral Pain Syndrome

Design

The Present Study Involving 45 Men With Patellofemoral Pain Syndrome. The Groups Assigned to This Study Were Randomized By Random Number Generator Software And Then Divided Into Three Groups Based on SNOSE Allocation Hiding. All Tests Will Be Performed In Sports Rehabilitation Laboratory By The Responsible And Staff of Laboratory. Then Each Intervention Will Be Performed For 8 Weeks And Three Times a Week.

Settings and conduct

All Tests And Exercises Will Be Performed In The Sports Rehabilitation Laboratory By Responsible and Staff of The Laboratory, Will Not Be Aware of The Research Process.

Participants/Inclusion and exclusion criteria

Included: Report of Pain Greater Than 3 Month Duration Pain Located Specifically Around The Patellofemoral Articulation (3 out of 10 on a Visual Analog Scale) Increase Knee Pain When Performing Activities: Sitting For Prolonged Time, Squatting, Kneeling, Running, Ascending And Descending Stairs, Jumping And Landing No Previous Knee Surgery Excluded: History of Surgery In Any Lower Limb Joint History of Patellar Subluxation or Meniscal Injury or Ligament Instability,

Intervention groups

The First Group of Sensory Motor Exercises Is Selected Based on The Janda Approach, Which Has Three Stages: Stage One or Static Stage, Second Stage Is The Dynamic Phase And Stage Three or Functional Stage Activities. Neurofeedback Training, Which Is Specific to The Second Group, Involving Increased Sensory Motor Wave And Decreasing Beta And Theta In The CZ Region. The Third Group, The Control Group, did Not

Perform Any Rehabilitation Exercises During This Time.

Main outcome variables

Pain

General information

Reason for update

Acronym

PFPS Study

IRCT registration information

IRCT registration number: **IRCT20191209045669N1**

Registration date: **2020-01-13, 1398/10/23**

Registration timing: **registered_while_recruiting**

Last update: **2020-01-13, 1398/10/23**

Update count: **0**

Registration date

2020-01-13, 1398/10/23

Registrant information

Name

mohamadreza ahmadi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 81 3254 4587

Email address

m.ahmadi01@phe.basu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-12-20, 1398/09/29

Expected recruitment end date

2021-01-08, 1399/10/19

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The Comparison Of Effectiveness Sensory Motor With Neurofeedback Training Effectiveness On Pain, Balance, Proprioception, and Index Valgus Dynamic Knee in Male With Patellofemoral Pain Syndrome

Public title
The Comparison Of Effectiveness Sensory Motor With Neurofeedback Training Effectiveness On Pain, Balance, Proprioception, and Index Valgus Dynamic Knee in Male With Patellofemoral Pain Syndrome

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Report of Pain Greater Than 3 Month Duration Pain Located Specifically Around The Patellofemoral Articulation (3 out of 10 on a Visual Analog Scale) Increase Knee Pain When Performing Activities: Sitting For Prolonged Time, Squatting, Kneeling, Running, Ascending and Descending Stairs, Jumping and Landing No Treatment Within The Previous 12 Months No Previous Knee Surgery No Neurological Disorders
Exclusion criteria:
History of Surgery in Any Lower Limb Joint History of Patellar Subluxation or Meniscal Injury or Ligament Instability, Neurological Involvement That Would Influence Gait Knee Effusion

Age
From **18 years** old to **35 years** old

Gender
Male

Phase
N/A

Groups that have been masked

- Care provider
- Outcome assessor

Sample size
Target sample size: **45**

Randomization (investigator's opinion)
Randomized

Randomization description
The Sample Size of The Present Study Was Randomized By Random Number Generator Software and Then Divided Into Groups of Motor Sensory, Neurofeedback and Control Based on SNOSE Allocation Concealment.

Blinding (investigator's opinion)
Double blinded

Blinding description
Sports Rehabilitation Laboratory Specialist in Patient Evaluation Sports Rehabilitation and Clinical Psychology as a Therapist

Placebo
Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

National Committee of Ethics in Biomedical Research

Street address

Andisheh Apartments, Block 2, Class 2, Danesh Amoz Square, Farhangian Town, Hamedan

City

Hamedan

Province

Hamadan

Postal code

6519955189

Approval date

2019-08-27, 1398/06/05

Ethics committee reference number

1398.001

Health conditions studied

1

Description of health condition studied

Patellofemoral Pain Syndrome

ICD-10 code

M00-M99

ICD-10 code description

بیماری‌های سیستم اسکلتی عضلانی و بافت همبند

Primary outcomes

1

Description

Pain

Timepoint

The Timing of The Primary Outcome Measure Will be Performed Before The Intervention and 8 Weeks After The Intervention.

Method of measurement

The For Evaluate be Will Use Visual Analogue Scale For Pain.

Secondary outcomes

1

Description

Balance, Proprioception and Dynamic Knee Valgus Index.

Timepoint

Secondary Outcome Variables Will be Measured Before

Treatment and 8 Weeks After Intervention.

Method of measurement

The For Evaluate be Will Use Biodex Instrument For Balance, Goniometer From Proprioception, Dynamic Valgus Index From Camera and Muscle Strength From Handel Dynamometer.

Intervention groups

1

Description

Intervention Group: Sensory Motor Training, Twenty Four Sessions, Each Session 1 Hour, 3 Days a Week

Category

Rehabilitation

2

Description

Intervention Group: Neurofeedback Training, Twenty Four Sessions, Each Session 30 Minute, 3 Days a Week

Category

Rehabilitation

3

Description

Control group: Control Group: No Intervention

Category

Diagnosis

Recruitment centers

1

Recruitment center

Name of recruitment center

Orthopedic clinics of Hamadan Province

Full name of responsible person

Mohamadreza Ahmadi

Street address

Andisheh Apartments, Block 2, Class 2, Danesh Amoz Square, Farhangian Town, Hamedan

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Phone

+98 81 3254 4587

Email

m.ahmadi01@phe.basu.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Gholam Hossein Majzoubi

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Grant name

Grant code / Reference number

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

No

Title of funding source

Bu Ali Sina University

Proportion provided by this source

90

Public or private sector

Private

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

Hamedan University of Medical Sciences

Full name of responsible person

Ali Yalfani

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physical Medicine

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Person responsible for scientific inquiries

Contact

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Full name of responsible person

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Position

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Person responsible for updating data

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Full name of responsible person

Mohamadreza Ahmadi

Position

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Latest degree

Master

Other areas of specialty/work

Physical Medicine

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

After Completion of Interventions And Final Evaluation, The Data Will Be Shared Through The Articles To Provide a Comprehensive Treatment Process.

When the data will become available and for how long

The Results of This Study Will Be Available In Journals 9 Months After Publication.

To whom data/document is available

The Results of The Studies Will Be Accessible to All Individuals in The Community Without Any Restrictions

Under which criteria data/document could be used

The Documentation Provided Can Be Applicable to Many Musculoskeletal Pain Syndromes as a Comprehensive Treatment Intervention That Considers Several Factors. These Interventions Are Applicable If Prescribed And Monitored By Physicists And Neurologists.

From where data/document is obtainable

Individuals Can Refer to The Bu Ali Sina University Bookstore And Scientific Research Journals For Gaining Results.

What processes are involved for a request to access data/document

The Refer To The Bu Ali Sina University Bookstore

Comments