

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Investigating the Effectiveness of Adding Lumbopelvic Core Stability Exercises to Muscle Energy Technique on Pain, Performance and Neurocognitive Parameters in Patients with Sacroiliac Joint Dysfunction

Protocol summary

Study aim

Understanding the therapeutic effects of adding central stability exercises to the muscle energy technique on patients with sacroiliac joint disorders

Design

A controlled, parallel-group, single-blind, randomized clinical trial of 30 patients.

Settings and conduct

6 treatment sessions are performed in Amir A'lam Hospital Patients are blinded to the intervention and control groups (single blinding).

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age range 18-45 years Having literacy (at least a diploma for neuro-cognitive variables) Having a unilateral disorder of AIR and PIR The direction of the disorder side and the painful side are the same Pain below the fifth lumbar vertebra (L5) and around the PSIS Chronic pain that has lasted for at least 3 months Minimum pain intensity based on VAS should be 30 The minimum degree of disability based on ODI should be 30% Body mass index between 18-28 kg/m² The positivity of 3 out of 5 iliac crest height tests, the level of PSISs, the level of ASISs, Standing Flexion Test and Gillet's Test, the positivity of Long Sitting Test and the positivity of 3 out of 5 tests Distraction Test, Compression Test, Thigh thrust test, sacral thrust test and Gaenslen's test The minimum intensity of the disturbance in performing the Active Straight Leg Raise movement should be 3 Exclusion criteria: Radiculopathy Fractures of the spine and lower limbs Lumbosacral surgery Spinal deformity and scoliosis Anatomical leg length difference with a difference of more than 1 cm pregnancy Rheumatoid arthritis and ankylosing spondylitis Malignancies Infection Cardiovascular disease and pacemakers The subject's unwillingness to cooperate in the beginning or continuation of the sessions

Intervention groups

Intervention group: Core stability exercises along with muscle energy technique Control group: Muscle energy technique

Main outcome variables

Pain

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20240728062565N1**

Registration date: **2024-10-05, 1403/07/14**

Registration timing: **registered_while_recruiting**

Last update: **2024-10-05, 1403/07/14**

Update count: **0**

Registration date

2024-10-05, 1403/07/14

Registrant information

Name

Majid Rajabian

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 8881 0325

Email address

mrajabian@razi.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-09-22, 1403/07/01

Expected recruitment end date

2025-03-20, 1403/12/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Investigating the Effectiveness of Adding Lumbopelvic Core Stability Exercises to Muscle Energy Technique on Pain, Performance and Neurocognitive Parameters in Patients with Sacroiliac Joint Dysfunction

Public title
Effects of Core stability exercise in sacroiliac joint dysfunction

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Age range 18-45 years Having literacy (at least a diploma for neuro-cognitive variables) Having a unilateral disorder of AIR and PIR The direction of the disorder side and the painful side are the same Pain below the fifth lumbar vertebra (L5) and around the PSIS Chronic pain that has lasted for at least 3 months Minimum pain intensity based on VAS should be 30 The minimum degree of disability based on ODI should be 30% Body mass index between 18-28 kg/m² The positivity of 3 out of 5 iliac crest height tests, the level of PSISs, the level of ASISs, Standing Flexion Test and Gillet's Test, the positivity of Long Sitting Test and the positivity of 3 out of 5 tests Distraction Test, Compression Test, Thigh thrust test, sacral thrust test and Gaenslen's test The minimum intensity of the disturbance in performing the Active Straight Leg Raise movement should be 3

Exclusion criteria:
Radiculopathy Fractures of the spine and lower limbs Lumbosacral surgery Spinal deformity and scoliosis Anatomical leg length difference with a difference of more than 1 cm pregnancy Rheumatoid arthritis and ankylosing spondylitis Malignancies Infection Cardiovascular disease and pacemakers The subject's unwillingness to cooperate in the beginning or continuation of the sessions

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

Gender
Both

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple randomization and quadruple block creation with 1:1 ratio Randomization will be done using

randomization.com For the purpose of allocation concealment, sealed and numbered envelopes will be used, which will be provided to the participant by the secretary

Blinding (investigator's opinion)
Single blinded

Blinding description
Participants are blinded to control or intervention group

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committees of School of Nursing and Midwifery & Rehabilitation - Tehran University o

Street address
Floor 13, Block A, Ministry of Health & Medical Education Headquarters, Between Zarafashan & South Falamak, Qods Town, Tehran, Iran.

City
Tehran

Province
Tehran

Postal code
1581749811

Approval date
2024-07-17, 1403/04/27

Ethics committee reference number
IR.TUMS.FNM.REC.1403.053

Health conditions studied

1

Description of health condition studied
Sacroiliac joint dysfunction

ICD-10 code
S33.6

ICD-10 code description
Sprain of sacroiliac joint

Primary outcomes

1

Description
Pain: To measure the pain of patients, a 100 mm long ruler known as Visual Analogue Scale will be used, with the word "no pain" at one end and the word "maximum pain" at the other end. In this study, people who have pain of at least 30 will be included in the study.

Timepoint

Before the start of the intervention, immediately after the first intervention session, after the 6th intervention session and one month after the last intervention session

Method of measurement

Visual Analogue Scale

Secondary outcomes**1****Description**

Neuro-cognitive variables that include visual and auditory selective reaction time and complex visual and complex auditory choice and prediction skill at low and high speed, which are measured with the Speed Anticipation Reaction Time system.

Timepoint

Before the first intervention, immediately after the first internal session, after the 6th intervention session and one month after the last intervention session

Method of measurement

Speed Anticipation Reaction Time system

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

Intervention group: Lumbo-pelvic core stability exercises along with muscle energy technique

Category

Treatment - Other

2**Description**

Control group: Muscle energy technique

Category

Treatment - Other

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

Amir A'lam Hospital

Full name of responsible person

Dr. Mostafa Rahimi

Street address

Saadi Ave.

City

Tehran

Province

Tehran

Postal code

1145765111

Phone

+98 21 6672 7060

Fax

+98 21 6670 8103

Email

hamiralam@sina.tums.ac.ir

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

Tehran University of Medical Sciences

Full name of responsible person

Dr. Hamid dalvand

Street address

Enghelab Ave., Faculty of Rehabilitation

City

Tehran

Province

Tehran

Postal code

1148965111

Phone

+98 21 7762 8205

Fax

+98 21 7753 4133

Email

hdalvand@sina.tums.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Tehran 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**

Tehran University of Medical Sciences

Full name of responsible person

Dr. Azadeh Shadmehr

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Tehran university of medical science- School of rehabilitation

City

Tehran
Province
Tehran
Postal code
6511111489
Phone
+98 21 7753 3939
Email
Shadmehr@tums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Dr.Azadeh Shadmehr
Position
Professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
Street address
Tehran university of medical science- School of rehabilitation
City
Tehran
Province
Tehran
Postal code
6511111489
Phone
+98 21 7763 6041
Email
Shadmehr@tums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
Tehran University of Medical Sciences

Full name of responsible person
Majid Rajabian
Position
MSc Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
No. 179, Somayyeh Ave., Iranshahr
City
Tehran
Province
Tehran
Postal code
1581749811
Phone
+98 21 8881 0325
Email
Mrajabian19@gmail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available