Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparison of the effectiveness of dry needling and myofascial release methods in improve pain, with hamstring trigger Football Playersin and ultrasonic changes of hamstring muscle functional ability points

Protocol summary

Study aim

Comparing dry needling and myofascial release in improving pain, function, and ultrasonic changes of the hamstring muscle in soccer players with hamstring muscle trigger points.

Design

Clinical trial, with parallel groups, single-blind, randomized

Settings and conduct

Football players, after consenting to participate in the study, pain, functional ability of partnering, distance between finger and toe, functional reach, and hamstring muscle thickness will be measured. For blinding, the evaluator and the therapist are not the same. Finally, participants were block randomly divided into dry needling and myofascial release groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: males between the ages of 18 - 35, The professional football athletes with hamstring trigger points diagnosed by a physiotherapist using Travell-Simons criteria. Exclusion criteria : history of lower limb fracture or surgery within the past year, presence of any lower limb pathologies like vascular diseases or osteoarthritis, fear of needles, pain score (VAS) between 4-7, recent physiotherapy treatment for the lower limb in the last 6 months, diabetes, lower limb deformities, unwillingness to follow intervention protocol or outcome measures, receiving other treatments for pelvic pain trigger points in the past 4 weeks.

Intervention groups

Dry needling group: In this group, the Deep DN technique will be used with sterile needles on points at the end of the hamstring muscle. Sessions will occur twice a week for 10 minutes each. Myofascial release group: In this group, Myofascial release technique exercises will be performed for two weeks (4 sessions), with each session consisting of a 60-second massage on the hamstring from the distal to the proximal hamstring area.

Main outcome variables

pain, functional ability of hamstring, finger to floor distance Functional reach, Hamstring strength and thickness

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180314039086N1**
Registration date: **2024-11-14, 1403/08/24**
Registration timing: **prospective**

Last update: **2024-11-14, 1403/08/24**
Update count: **0**

Registration date

2024-11-14, 1403/08/24

Registrant information

Name

Marzieh Mortezanejad

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-12-21, 1403/10/01

Expected recruitment end date

2025-04-19, 1404/01/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effectiveness of dry needling and myofascial release methods in improve pain, with hamstring trigger Football Playersin and ultrasonic changes of hamstring muscle functional ability points

Public title

dry needling and myofacial release on hamstring trigger point

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Professional athlete in the field of football Football players with hamstring trigger points whose trigger points have been diagnosed by a physiotherapist using Travell & Simons criteria. Age between 18 -35 years

Exclusion criteria:

A history of fracture and surgery in the lower limb in the last year Presence of any pathology in the lower limbs such as vascular diseases and osteoart hritis Fear of needles Having a pain score (VAS) in the range of 7-10 receiving physiotherapy treatment for the lower limb during the last 6 months Having diabetes Sensitivity to needles The presence of any type of lower limb deformity Athletes who cannot or do not want to comply with the intervention protocol or outcome measures Received any other treatments for joint trigger points or pelvic pain in the past 4 weeks, such as medicine, injection, acupuncture, or physiotherapy Football players who have other neurological or musculoskeletal conditions that may affect the hamstring muscle or hip area, such as lumbar disc herniation, sciatica, piriformis syndrome, or hip disease, and have received physiotherapy treatment for the lower limb in the last 6 months

Age

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

Gender

Male

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **44**

Randomization (investigator's opinion)

Randomized

Randomization description

Stratified Permuted Block Randomization will be utilized with 11 blocks of 4 individuals assigned to each group. Group A will receive hamstring needling, while Group B will receive hamstring myofascia release. The order of interventions A and B within blocks numbered 1 to 11 will be determined by the project's methodological consultant and provided to the project's executive supervisor, who will then assign each qualified participant.

Blinding (investigator's opinion)

Single blinded

Blinding description

The evaluator of the results is not the same as the subject who sampled.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethic committee of semnan university of medical sciences and health service

Street address

Headquarter of Semnan University of Medical Sciences and Health Services, Bassij Blvd, Semnan, Iran.

City

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Province

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Postal code

35147-99442

Approval date

2024-10-23, 1403/08/02

Ethics committee reference number

IR.SEMUMS.REC.1403

Health conditions studied

1

Description of health condition studied

Trigger points in the hamstring

ICD-10 code

M79.1

ICD-10 code description

Myalgia

Primary outcomes

1

Description

Hamstring functional assessment, Hamstring thickness ultrasonography

Timepoint

Before the treatment and immediately after the treatment

Method of measurement

single leg hamstring bridge test, finger floor distance, functional reach test, ultrasonigraphy

Secondary outcomes

1

Description

pain and strength assessment in hamstring

Timepoint

before and immediately after the treatment

Method of measurement

visual analog scale, dynamometer

Intervention groups

1

Description

Intervention group:En Dry needling group: In this group, the Deep DN technique will be used with sterile needles on points at the end of the hamstring muscle. Sessions will occur twice a week for 10 minutes each. the proximal hamstring area.

Category

Treatment - Devices

2

Description

Intervention group:Myofascial release group: In this group, Myofascial release technique exercises will be performed for two weeks (4 sessions), with each session consisting of a 60-second massage on the hamstring from the distal to proximal

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences and Health ser

Full name of responsible person

Ziaeddin Safavi Farrokhi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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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

Semnan 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

Semnan University of Medical Sciences

Full name of responsible person

Mahmood Bagheri

Position

Student

Latest degree

Bachelor

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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
No - There is not a plan to make this available
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
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available