Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparison of the Effects of Dry Needling and Cupping therapy on Pain Intensity, Range of Motion, and Function of the Hamstring Muscle with Active Myofascial Trigger Points in amateur athletes

Protocol summary

Study aim

To compare the effects of dry needling and cupping therapy in hamstring mucle with active trigger points

Design

This study involves the voluntary allocation of participants after they sign a consent form. Randomization is performed using the block randomization method with a block size of 4 to ensure participants are balanced between the two intervention groups (dry needling + static stretching or cupping therapy + static stretching). Within each block of 4 individuals, 2 are assigned to each group to maintain balance between the groups.

Settings and conduct

The initial collection of participant demographics (age, weight, height) and all assessments will be conducted by a blinded physical therapist at the Tehran Physiotherapy Clinic and Rehabilitation School. These assessments will take place at four time points: baseline, immediately after the first session, after the final session, and two weeks post-treatment.

Participants/Inclusion and exclusion criteria

Individuals aged 18 to 40 years - Patients with active trigger points in the hamstring muscle, diagnosis of active trigger points will be performed according to the Travell & Simons criteria Exclusions: - Having a history of orthopedic or neurological problems in the lower extremities - Having back pain at the time of the study

Intervention groups

The group receiving static stretch and dry needling and the group receiving static stretch and cupping therapy

Main outcome variables

Pain intensity - range of motion - hamstring muscle flexibility with active knee extension test - passive stretch tolerance of hamstring muscles - peak passive torque of hamstring muscles against stretch

General information

Reason for update

Acronym

CUDHAM-RCT

IRCT registration information

IRCT registration number: **IRCT20260214068853N1**
Registration date: **2026-04-20, 1405/01/31**
Registration timing: **registered_while_recruiting**

Last update: **2026-04-20, 1405/01/31**
Update count: **0**

Registration date

2026-04-20, 1405/01/31

Registrant information

Name

Sara Delsuz

Name of organization / entity

Country

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2026-04-20, 1405/01/31

Expected recruitment end date

2026-06-20, 1405/03/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
Comparison of the Effects of Dry Needling and Cupping therapy on Pain Intensity, Range of Motion, and Function of the Hamstring Muscle with Active Myofascial Trigger Points in amateur athletes

Public title
Dry Needling and cupping therapy in Hamstring muscle

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Patients with active trigger points in the hamstring muscle (assessed by physiotherapist) Pain intensity according to the VAS scale between 3 and 7 Amateur athletes (3 sessions per week or maximum 6 hours of weekly training for at least the last 10 months) Individuals with hamstring muscle shortening with AKE 90/90 (physiotherapist assessment)

Exclusion criteria:
Having a history of orthopedic or neurological problems in the lower extremities Having a history of surgery in the back, hip, or knee areas Having a recent history of hamstring strain Having upper or lower motor neuron damage Received treatment in the last three months women in menstruation cycle Having a difference in limb length of more than two centimeters Experience of any injury to the lower extremities within the last three months

Age
From **18 years** old to **40 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
Randomization is performed using the Block Randomization method as follows to allocate participants evenly to one of the two intervention groups of dry needling plus static stretch or cupping therapy plus static stretch. A) Randomization and allocation to groups: Given that we have 2 groups in this study, the block size must be divisible by 2, which is the most common block size when we have 2 study groups, 4, from each block of 4 people, 2 people are placed in the dry needling group and 2 people in the cupping group. All possible combinations for a block include AABB, ABAB, ABBA, BBAA, BABA, BAAB…. Each person enters the study based on the order in the selected block. For example, if the randomization block is AABB, the first two people will enter the dry needling group and the second two people will enter the cupping group, so that we finally have two equal groups.

Blinding (investigator's opinion)
Single blinded

Blinding description
This study is single-blind, and the outcome assessor is completely blinded to the participants' allocation to the treatment groups (dry needling or cupping therapy). Implementation of Blinding: Independent Assessment: Outcome assessment is conducted by an individual who has no role in the intervention delivery or participant allocation to groups. Information Protection: Participant allocation to groups is managed by an assessor external to the research team. The outcome assessor works solely with anonymized participant codes, not group names. Randomization Method (Blocking): To ensure group balance and prevent premature disclosure of allocation, the blocking method has been employed. In this method, blocks with specific combinations (e.g., AABB, ABAB) are defined, and participants are assigned to groups based on their order of entry into these blocks.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics of commitiee of Nursing and Midwifery ,Tehran University of Medical Sciences

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Zarafshan st. Abzarian , sixth kohsar , number nine , unite 5

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Eslamshahr

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Tehran

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3314648483

Approval date
2026-04-10, 1405/01/21

Ethics committee reference number
IR.TUMS.FNM.REC.1404.241

Health conditions studied

1

Description of health condition studied
Hamstring Muscle with Active Myofascial Trigger Points

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
hamstring flexibility with active knee extension test, pain intensity with VAS or visual analogue scale, passive compliance of hamstring , peak passive torque during stretch

Timepoint
The assessment periods include one session before the start of treatment, one immediately after the first session, a third after the completion of treatment sessions, and a fourth two weeks after the assessments for follow-up.

Method of measurement
Visual Analog Scale (VAS) for pain, Goniometer, Handheld dynamometer

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group:

Category
Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center
کلینیک فیزیوتراپی

Full name of responsible person
Sara Delsuz

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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?
No

Title of funding source
Tehran university of medical science

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
Sara Delsuz

Position
Physiotherapist

Latest degree
Bachelor

Other areas of specialty/work
Physiotherapy

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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
No - There is not a plan to make this available

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

Title and more details about the data/document
Comparison of the effects of dry needling and cupping therapy on pain intensity, range of motion, and hamstring muscle function in amateur athletes." Data Description: "The data includes measurements of pain intensity, range of motion, and hamstring muscle function. As no identifying information was recorded, a significant portion of the data is shareable.

When the data will become available and for how long
Six months after publication

To whom data/document is available
Academic researchers and those who are industrially involved.

Under which criteria data/document could be used
Citation and referencing are fully permitted.

From where data/document is obtainable
via this email address: saraslifeonig@gmail.com

What processes are involved for a request to access data/document
The requester first submits an official request, and after the initial review, assessment of ethical/legal restrictions, and final preparation of the data, the files are provided by the author. Depending on the type of data, the entire process typically takes between 3 and 20 working days.

Comments