

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jun 2026

The study of immediate effects of dry needling on electromyographical, biomechanical and clinical measures in MS subjects with Hamstring muscles spasticity with one week follow-up

Protocol summary

Summary

Objective: To explore the immediate effects of dry needling on electromyographical, biomechanical and clinical measures in MS subjects with Hamstring muscles spasticity in a controlled clinical trial Research design: controlled clinical trial, randomized, blinded Participants: MS subjects with Hamstring muscles spasticity Main inclusion criteria: • Taking interferon drugs • No other neurological condition • Walking ability with or without walking aids • Lower extremity MMAS spasticity score ≥ 1 • No contraindications for DN Main exclusion criteria: • MS attack during the study • Taking antispastic drugs Sample size: 24 for each group and 48 totally Intervention: Dry Needling Duration: 1 minute for each part of hamstring muscle Primary outcome measure: • spasticity of hamstring muscle • hamstring muscle electrical activity Secondary outcome measure: • Biomechanical changes in hamstring muscle • Patient's motor function The assessor will be blinded to what group the patient has allocated to.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017100736624N1**
Registration date: **2017-11-10, 1396/08/19**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-11-10, 1396/08/19

Registrant information

Name

maede khalifeloo

Name of organization / entity

tehran university of medical sciences

Country

Iran (Islamic Republic of)

Phone

+98 912 678 3476

Email address

m-khalifeloo@razi.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Dean deputy of research

Expected recruitment start date

2017-09-23, 1396/07/01

Expected recruitment end date

2018-06-21, 1397/03/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The study of immediate effects of dry needling on electromyographical, biomechanical and clinical measures in MS subjects with Hamstring muscles spasticity with one week follow-up

Public title

Immediate effects of dry needling Hamstring muscles spasticity in in MS subjects

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria are: • Being diagnosed with MS (RRMS)
• Taking interferon drugs • No other neurological condition • Walking ability with or without walking aids •

Being able to understand and follow the instructions • EDSS>6-6.5 • Lower extremity MMAS spasticity score≥1 • Knee contracture≤10% • No Botox injection since last 3 months • No contraindications for DN • No MS attack in previous month • Not to participate in other treatment protocols Exclusion criteria are: • Unwilling to take part in the study • MS attack during the study • Taking antispastic drugs

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 48

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Dry needling will apply by a therapist and another therapist who doesn't know which group patient has allocated to, will do all assessments. Randomization: Random table number

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of tehran university of medical sciences

Street address

tehran university of medical sciences

City

tehran

Postal code

Approval date

2017-08-19, 1396/05/28

Ethics committee reference number

IR.TUMS.FNM.REC.1396.3232

Health conditions studied

1

Description of health condition studied

Multiple sclerosis

ICD-10 code

G35

ICD-10 code description

Multiple sclerosis

Primary outcomes

1

Description

Spasticity of hamstring muscle

Timepoint

Before, after, one week later as follow up

Method of measurement

MMAS

2

Description

Hamstring muscle electrical activity

Timepoint

Before, after, one week later as follow up

Method of measurement

sEMG

Secondary outcomes

1

Description

Biomechanical changes in hamstring muscle

Timepoint

Before, after, one week later as follow up

Method of measurement

Spasticity evaluation by dynamometer

2

Description

Patient's motor function

Timepoint

Before, after, one week later as follow up

Method of measurement

By T25FW test

Intervention groups

1

Description

1 minute dry needling for each medial and lateral parts of hamstring muscle

Category

Treatment - Other

2

Description

Patients in control group won't receive intervention. they will rest in prone position for 2 minutes.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Iranian multiple sclerosis association

Full name of responsible person

Maede Khalifelii

Street address

No. 35, Shams Alley, Vesal Shirazi Aenue, Enghelab

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research of tehran university of medical sciences

Full name of responsible person

Dr Mohammad ali sahraeian

Street address

Vice chancellor for research and technology of tehran university of medical sciences, 6th floor, university centra office, Ghods Avenur, Keshvarz Blv.

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice chancellor for research of tehran university of medical sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences, school of rehabilitation

Full name of responsible person

Maede Khalifeloo

Position

Ph.D candidate of physiotherapy

Other areas of specialty/work

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Person responsible for updating data

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Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty