

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Remote therapeutic effectiveness of dry needling and ischemic pressure on the pain intensity and functional disability of upper limb in patients with myofascial pain syndrome

Protocol summary

Study aim

1.Evaluation and comparison of remote therapeutic effects of dry needling and ischemic pressure in patients with myofascial pain syndrome immediately and after 3 sessions.

Design

Two arm parallel group randomised trial with blinded

Settings and conduct

The study is being conducted at Asad abadi Hospital. The inclusion and exclusion criteria are evaluated and written consent is obtained from the participants. Patients are randomized using block. First, the pain pressure threshold and pain intensity were measured in the ipsilateral upper trapezius and extensor carpi radialis longus muscles. Intervention in each group is performed only on the upper trapezius muscle during three sessions with a time interval of one week. End of each session, the pain pressure threshold and pain intensity were recorded in the upper trapezius and extensor carpi radialis longus muscles. Evaluator and patients are blind.

Participants/Inclusion and exclusion criteria

Having neck or shoulder pain, presence of active trigger point in the upper trapezius and latent trigger point in the extensor carpi radialis longus muscle and intensity of pain at least 30 mm on visual analog scale are inclusion criteria. patients with history of surgery and trauma in the neck or shoulder, infection, or inflammatory edema in the trigger point region, pregnancy and vascular or coagulation disorders will be excluded.

Intervention groups

Intervention group (dry needling): It is performed at the active trigger point of the upper trapezius muscle for 3 sessions with a time interval of one week. control group (ischemic pressure): It is performed at the active trigger point of the upper trapezius muscle for 3 sessions with a time interval of one week.

Main outcome variables

pain intensity; pain pressure threshold; upper limb functional disability.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200215046499N1**

Registration date: **2020-04-07, 1399/01/19**

Registration timing: **prospective**

Last update: **2020-04-07, 1399/01/19**

Update count: **0**

Registration date

2020-04-07, 1399/01/19

Registrant information

Name

Hakimeh Adigozali

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-05-04, 1399/02/15

Expected recruitment end date

2020-08-05, 1399/05/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Remote therapeutic effectiveness of dry needling and ischemic pressure on the pain intensity and functional disability of upper limb in patients with myofascial pain syndrome

Public title
Remote therapeutic effectiveness of dry needling and ischemic pressure on the pain intensity and functional disability of upper limb in patients with myofascial pain syndrome

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Patient in the age range of 20 to 40 years. Having neck pain or shoulder pain or both of them. The presence of active trigger point in the upper trapezius muscle and latent trigger point in the extensor carpi radialis longus muscle. The intensity of pain should be at least 30 mm on visual analog scale in initial evaluation of active trigger point in the upper trapezius muscle.
Exclusion criteria:
History of surgery in the neck or shoulder or upper extremity A history of trauma in the recent years. Radiculopathy in the upper extremity Kyphosis or severe forward head posture Involvement with fibromyalgia syndrome Skin damage, infection, or inflammatory edema in the trigger point region Pregnancy sedative drugs consumption before and during treatment Vascular and coagulation disorders cancer

Age
From **20 years** old to **40 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple randomization with a sealed envelope: Two envelopes are prepared with the first and second group titles. Each participant randomly selects one envelope and the envelope number is recorded for the participant. The envelopes are then merged and the next participant selects another envelope from the two envelopes as the previous procedure to complete the randomization process in both groups.

Blinding (investigator's opinion)
Double blinded

Blinding description
Participants will be blind to the mechanism of treatments

in each group. examiner is also blind.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Tabriz University of Medical Sciences
Street address
, Next to the Vahdat Hall, faculty of rehabilitation, IRAN - Tabriz
City
Tabriz
Province
East Azarbaijan
Postal code
5166616471

Approval date
2020-01-20, 1398/10/30

Ethics committee reference number
IR.TBZMED.REC.1398.1154

Health conditions studied

1

Description of health condition studied
Myofascial pain syndrome

ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Pain intensity

Timepoint
Pre intervention, immediately post treatment, 7 and 14 days after first session.

Method of measurement
Visual analogue scale

2

Description
Pain pressure threshold

Timepoint
Pre intervention, immediately post treatment, 7 and 14 days after first session.

Method of measurement

Algometer

3

Description

Disability of the upper limb

Timepoint

before treatment, 7 and 14 days after treatment

Method of measurement

Disability of the Arm Shoulder and Hand (DASH) questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Dry needling intervention: In this group, needle enters the active trigger point of the upper trapezius muscle and local twitch response is observed. Then, needle pulls out but does not leave the skin and enters the trigger point again. This is repeated until no local twitch response is detected with 10 manipulation. This treatment is done for 3 sessions with one week interval.

Category

Rehabilitation

2

Description

Control group: Ischemic pressure intervention: In this group, pressure is gradually applied by an algometer disk to the trigger point of upper trapezius muscle of the patient for 90 seconds based on their pain pressure threshold. This technique is repeated 3 to 5 times until the pain and symptoms are resolved. This treatment should be repeated for 3 sessions with an interval of one week.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Asad Abadi hospital, physical therapy clinic

Full name of responsible person

Hakimeh Adigozali

Street address

Bahar street, Asad Abadi hospital

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

Mohammad Samiei

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International Relations Office, No 2 Central Building, Tabriz University of Medical Sciences, University Street, Tabriz,

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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

Tabriz 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

Tabriz University of Medical Sciences

Full name of responsible person

Hakimeh Adigozali

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Faculty of rehabilitation sciences, Tabriz University of Medical sciences, 29 Bahman Blvd.

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Person responsible for scientific inquiries

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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

No more information.

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