Clinical Trial Protocol
Iranian Registry of Clinical Trials

01 Jun 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 myofacial 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
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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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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Full name of responsible person
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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
HakimehAdigozali
Position
Assistant Professor
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Physiotherapy
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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