

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jul 2026

Effects of positional release and passive shortening techniques on pain and muscle thickness in people with latent trigger points

Protocol summary

Study aim

Effects of positional release and passive shortening techniques on pain and muscle thickness in people with latent trigger points

Design

Clinical trial with control group, with parallel groups, single-blind, randomized, on 42 patients. Random allocation software was used for randomization.

Settings and conduct

Participants in the study are divided into two groups of intervention and control using a computer randomization program. The study is conducted blindly and the evaluator does not know what group each person belongs to. Everyone attends three sessions a week and is re-evaluated one week after the third session. Evaluation of the effects of treatment using VAS and muscle thickness is performed by another physiotherapist.

Participants/Inclusion and exclusion criteria

The presence of a latent trigger point in the right or left upper trapezius muscle (if both sides are involved, the selection will be random) Having a minimum pain of 3 and a maximum of 7 on the visual scale of pain during the application of force 2.5 kg / cm² by the algometer

Intervention groups

Control group: People for whom PRT technique is performed. Intervention group: People for whom MPMS technique is performed.

Main outcome variables

thickness of the upper trapezius muscle pain of the upper trapezius muscle pain pressure threshold of the upper trapezius muscle

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20151007024412N5**

Registration date: **2022-11-27, 1401/09/06**

Registration timing: **prospective**

Last update: **2022-11-27, 1401/09/06**

Update count: **0**

Registration date

2022-11-27, 1401/09/06

Registrant information

Name

Sakineh Goljaryan

Name of organization / entity

Tabriz University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 41 3335 5921

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-12-01, 1401/09/10

Expected recruitment end date

2023-03-01, 1401/12/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of positional release and passive shortening techniques on pain and muscle thickness in people with latent trigger points

Public title

Thickness changes in myofascial pain syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Minimum age 18 and maximum 35 The presence of a latent trigger point in the right or left upper trapezius muscle (if both sides are involved, the selection will be random) Having a minimum pain of 3 and a maximum of 7 on the visual scale of pain during the application of force 2.5 kg / cm² by the algometer BMI between 20-25 Being a non-athlete

Exclusion criteria:

Having a history of radiculopathy or myelopathy of the neck with the diagnosis of a specialist Fibromyalgia syndrome diagnosed by a specialist doctor History of neck and shoulder surgery during the past year Trigger point treatment in the last month Existence of sensory disturbance in trapezoidal area Having a history of Whiplash injury Acute upper trapezius muscle injury in the last 6 days

Age

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

Gender

Male

Phase

N/A

Groups that have been masked

- Investigator
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

Sample size

Target sample size: **42**

More than 1 sample in each individual

Number of samples in each individual: **21**

21 people in the control group and 21 people in the intervention group

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization is performed by someone outside the research team using the 1: 1 parallel allocation method. A computer randomization program is used to assign participants to groups, using blocks of four and six. Matte sealed envelopes are then used and concealment is done by assigning groups using the pre-labeled letters A and B.

Blinding (investigator's opinion)

Single blinded

Blinding description

The study will done in a blind way and the evaluator does not know which group each person is in. First, preliminary evaluations including muscle thickness, PPT and VAS are performed by the examiner. After the evaluations are completed, therapeutic techniques are applied based on the group that each person is randomly placed in, by another person (therapist) and without the knowledge of the evaluating person (examiner). Immediately after the completion of the technique, the

evaluations will be done again by the examiner.

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

29 Bahman street - Tabriz University - Faculty of Rehabilitation Sciences

City

Tabriz

Province

East Azarbaijan

Postal code

5166616471

Approval date

2022-08-29, 1401/06/07

Ethics committee reference number

IR.TBZMED.REC.1401.486

Health conditions studied

1

Description of health condition studied

Myofascial pain syndrome

ICD-10 code

M62.9

ICD-10 code description

Disorder of muscle, unspecified

Primary outcomes

1

Description

thickness of the upper trapezius muscle

Timepoint

Before the start of the intervention, immediately after the intervention, 2 days after the first session, 9 days after the first session

Method of measurement

sonography

2

Description

Pain

Timepoint

Before the start of the intervention, immediately after the intervention, 2 days after the first session, 9 days after the first session

Method of measurement

Visual Analogue Scale

3

Description

pain pressure threshold

Timepoint

Before the start of the intervention, immediately after the intervention, 2 days after the first session, 9 days after the first session

Method of measurement

pressure algometry

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Manual Passive Muscle Shortening technique: The person sleeps on his back and a pillow is placed under his abdomen. The therapist stands on the involved side and brings the beginning and end of the involved upper trapezius muscle (the periphery of the sixth cervical vertebra and the acromion appendage) closer together using the web of his hands and shortens the muscle. This position is maintained for 90 seconds and finally the muscle is slowly released and returns to its original position. These steps are repeated three times.

Category

Treatment - Other

2

Description

Control group: Positional release. The patient sleeps on the vault and the therapist stands on the involved side. Then with his finger, he applies some pressure on the trigger point that has the most pain (A) and asks the person to keep in mind the amount of pain caused by this pressure. The person's head bends towards the trigger point. Then the therapist takes the person's hand and takes the person's shoulder to about 90 degrees of abduction and slowly moves the hand in different planes in search of the ideal position. After finding the ideal position (minimum 70% reduction of pain at the desired point), while the therapist's finger is placed on the painful point without pressure, the person's hand and shoulder are kept in that position for 90 seconds. Finally, the person's body is passively returned to its original state and these steps are repeated three times.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Tabriz University of Medical Sciences

Full name of responsible person

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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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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

Person responsible for general inquiries

Contact

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

Sakineh Goljaryan

Position

assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Staff member

Latest degree

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Other areas of specialty/work

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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

Although the data is non-identifying of the participants, only the statistical results obtained from the data are published, and they are not published in order to prevent other people from copying and creating data.

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Not applicable

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

All statistical results from the data are published in congresses and articles.

When the data will become available and for how long

After completing the study and printing the results

To whom data/document is available

The general public and researchers and academics

Under which criteria data/document could be used

It is allowed by experts and for use in treatment.

From where data/document is obtainable

Journals in which the results have been published.

Project manager: Dr. Sakineh Goljaryan.
What processes are involved for a request to access data/document

By sending an email
Comments