

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jun 2026

The Comparison between the effect of Pressure Release, Phonophoresis and Dry Needling on treatment of latent Trigger Point of Upper Trapezius Muscle

Protocol summary

Summary

Objective: the main purpose of the present study was to compare the effect of pressure release (PR), phonophoresis of betamethasone (PB) and dry needling (DN) on treatment of upper trapezius latent myofascial trigger point (LMTP). Design: Repeated treatment design. Setting: Physical therapy clinic. Participant: sixty participants with at least one LMTP in the upper trapezius muscle participated in this study. Participants were randomly divided into 3 groups (PR, PB and DN). The PB and PR groups had 3 evaluation and treatment sessions but the DN group had 2 treatments and 3 evaluation sessions per week. Furthermore there was another evaluation session (7th session) 24 hours after the end of second week. Main outcome measurement: Pain intensity, pain pressure threshold (PPT), active cervical range of motion (ROM) including lateral flexion and rotation in both sides, were assessed in each session.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015103024729N1**
Registration date: **2015-11-16, 1394/08/25**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-11-16, 1394/08/25

Registrant information

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Iran University of Medical & Science

Expected recruitment start date

2013-06-22, 1392/04/01

Expected recruitment end date

2014-01-20, 1392/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Comparison between the effect of Pressure Release, Phonophoresis and Dry Needling on treatment of latent Trigger Point of Upper Trapezius Muscle

Public title

The effect of pressure release, dry needling and therapeutic ultrasound on painful point of trapezius muscle in neck

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria were presence of tender spot within taut band in the upper trapezius muscle which was painful in response to 25 Newton (N) pressures on it. Exclusion criteria were diagnosis of fibromyalgia syndrome; history of whiplash; history of neck surgery;

myofascial trigger point treatment at least during last past month; presence of cervical radiculopathy that determined by physician; presence of sever postural deviation such as scoliosis or hyper kyphosis; presence of active myofascial trigger point sign include jump sign; local hemorrhage; consumption any anticoagulation drug; usage alcohol or any material that disturb the consciousness of person.

Age

From **18 years** old to **60 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Tehran University of Medical Sciences

Street address

Tehran University of Medical Sciences, Keshavarz Blv.

City

Tehran

Postal code**Approval date**

2013-05-25, 1392/03/04

Ethics committee reference number

130/343/92/3

Health conditions studied**1****Description of health condition studied**

myofascial trigger point of upper trapezius

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Cervical range of motion

Timepoint

Before and after the treatment

Method of measurement

Goniometry

2**Description**

Pain intensity

Timepoint

Before and after the treatment

Method of measurement

Visual Analoge Sclae

3**Description**

Pain pressure threshold

Timepoint

Before and after the treatment

Method of measurement

Algometer

Secondary outcomes

empty

Intervention groups**1****Description**

Pressure release: in this technique patients treat with manual pressure on trigger point of muscle.

Category

Treatment - Devices

2**Description**

Dry needling: in this technique trigger point of patient treat with needle striking.

Category

Treatment - Other

3**Description**

Phonophoresis: in this method betamethasone solution pass via skin by usage of ultrasonic waves.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Clinic of Physical Therapy, Iran University of Medical Sciences

Full name of responsible person

Street address

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Dr mojtaba kamyab

Street address

Rehabilitation Faculty, Madar Squ., Mirdamad St.

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Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Iran 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

Iran University of Medical Sciences

Full name of responsible person

Abbas Tabatabaiee

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PhD candidate of physical therapy

Other areas of specialty/work

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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

