Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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/ɔ

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
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Rehabilitation Faculty, Madar Squ., Mirdamad St.
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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
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

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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

Data Dictionary	*empty*