Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effectiveness combination of myofascial release technique-dry needling and dry needling on the active trigger points of the upper trapezius muscle.

Protocol summary

Study aim
Comparison of the effects of two manual treatments separately and together in treating the active trigger points

Design
Clinical trial with control group, experimental-interventional, convenience sampling, random allocation.

Settings and conduct
The target community is selected from the students of the Rehabilitation School who have active trigger points in upper trapezius muscle. Sampling method is non-random and allocation of samples to groups will be random. Sampling will be done at the Biomechanics Laboratory of the Faculty of Rehabilitation.In this study data analyzer will be blind. The physiotherapist assesses the local pain intensity through (visual analog scale), active cervical contra lateral flexion using Goniometer and pressure pain threshold using algometer. Iranian version of neck disability index questionnaire will be used to determine the level of patient's ability. Variables will be assessed at the first session before and after the intervention and the third session and two weeks after the end of the treatment.

Participants/Inclusion and exclusion criteria
Subjects between 20 and 40 years, Presence of active trigger points, Pain at least 30 mm in visual analog scale, Exclusion criteria: History of whiplash injury, History of head , neck , cervical spine or shoulder surgery, History of cervical radiculopathy, Diagnosed fibromyalgia and myopathy, History of cancer, Pregnancy, History of treatment in a past month, Contraindication of dry needling technique,

Intervention groups
Intervention group 1:Dry needling , three times a week , For 1 week. Intervention group 2: Myofascial release+Dry needling+Myofascial release , three times a week , For 1 week..

Main outcome variables
Pain intensity at the visual scale of pain, Pressure pain threshold, Active cervical contra lateral flexion, Neck disability index Based on forward head posture.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20191027045255N1**
Registration date: **2019-11-09, 1398/08/18**
Registration timing: **prospective**

Last update: **2019-11-13, 1398/08/22**
Update count: **1**

Registration date
2019-11-09, 1398/08/18

Registrant information

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Name of organization / entity

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-11-22, 1398/09/01

Expected recruitment end date
2020-11-21, 1399/09/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effectiveness combination of myofascial release technique-dry needling and dry needling on the active trigger points of the upper trapezius muscle.

Public title

Comparison of the combination of myofascial release technique-dry needling and dry needling on the active trigger points of the upper trapezius muscle.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Subjects between 20 and 40 years Presence of active trigger points in upper trapezius musclePain at least 30 mm in visual analog scale

Exclusion criteria:

History of whiplash injury History of head , neck , cervical spine or shoulder surgery History of cervical radiculopathy Diagnosed fibromyalgia and myopathy History of cancer Pregnancy Myofascial therapy within the past month Contraindication of dry needling technique

Age

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

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, a sample of 60 people, 30 cards for each intervention group were considered and placed inside a sealed envelope that is non-transparent to draw then each patient takes one of the cards randomly and their group is identified and the generated sequence is recorded.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Shahid Beheshti University of Medical Sciences

Street address

SBUMS, Arabi Ave, Daneshjoo Blvd, Velenjak, Tehran, Iran.

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Approval date

2019-05-05, 1398/02/15

Ethics committee reference number

IR.SBMU.RETECH.REC.1398.039

Health conditions studied

1

Description of health condition studied

Myofascial Trigger Points of the Upper Trapezius Muscle

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Pain intensity in the visual scale of pain

Timepoint

Measure the severity of pain in the first session before and after the intervention and the third session and two weeks after the end of treatment

Method of measurement

Visual analogue scale

2

Description

Pain pressure threshold

Timepoint

Measurement at first session before and after intervention, the third session, and two weeks after the end of treatment

Method of measurement

Digital algometer (Lutron FG-5020)

3

Description

Active cervical contra lateral flexion

Timepoint

Measurement at first session before and after intervention and the third session and two weeks after

the end of treatment

Method of measurement

Goniometry

4

Description

Neck disability index

Timepoint

Measurement at first session before intervention, the third session, and two weeks after the end of treatment

Method of measurement

Neck disability index- iranian version questionnaire

5

Description

Forward head postture

Timepoint

Measurement at first session before intervention, and two weeks after the end of treatment

Method of measurement

Craniovertebral Angle

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group:Dry needle technique is done using sterile needles and disposable Dong Bang with a length of 40 mm and a thickness of 0.25 mm.After the tight bundles are found in the upper trapezius muscle, the therapist inserts the needle at a 30-degree angle and inserts the needle out frequently and then again into another part of the trigger point, this procedure is repeated as long as no other local twitch response is felt. This technique is performed in 3 sessions and three times a week.

Category

Treatment - Devices

2

Description

Intervention group: In this group ,the tight bundles in the upper trapezius muscle were first released for 5 minutes, and the muscle response consisted of localized heat sensed by the patient indicating the correct technique.Then Dry needle technique is done using sterile needles and disposable Dong Bang with a length of 40 mm and a thickness of 0.25 mm.After the tight bundles are found in the upper trapezius muscle, the therapist inserts the needle at a 30-degree angle and inserts the needle out frequently and then again into another part of the trigger point, this procedure is repeated as long as no other local twitch response is felt. Then, again,the Myofascial release technique is performed for 5 minutes in the same manner as described.This technique is performed in 3 sessions and three times a week.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

The School of Rehabilitation Sciences, Shahid Beheshti University of Medical Sciences

Full name of responsible person

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Sponsors / Funding sources

1

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Grant name

Grant code / Reference number

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

No

Title of funding source

Shahid Beheshti 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
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
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