

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Jul 2026

The effect of integrated neuromuscular inhibition technique on trigger points pain threshold in patients with neck and shoulder muscles trigger points

Protocol summary

Summary

Purpose of study: The effect of integrated neuromuscular inhibition technique on pain threshold of neck and shoulder muscles trigger points; just interventional group; without control group; not blinded; without placebo; Inclusion criteria: age: 20-40 y/o - presenting active myofascial trigger points in neck and shoulder muscles with pain recognition when pressure applied; Exclusion criteria: previous neck surgery(during last year) - cervical radiculopathy - participants with fibromyalgia syndrome; Target sample size:15; Intervention: integrated neuromuscular inhibition technique; Material and methods: All subjects provided informed consent before enrollment in the study. Active myofascial trigger points in neck and shoulder muscles recognized in prone position. A visual analog scale(VAS) was used to grade their level of neck pain and algometer to grade pressure pain threshold. The subjects were placed in supine position with small towel roll under their neck to reduce tension in the upper trapezius muscle. The following three techniques applied in sequential order: Ischemic compression: Pressure applied through the thumb of physical therapist directly on myofascial trigger points to produce tolerable pain. The pressure applied sustained and progressively increased by reinforcing with the thumb or finger of the other hand until tissue resistance is encountered. Contact was maintained till the tissue barrier was released and pressure was maintained to 90 s. The procedure was repeated three times per session. Strain counter strain: The pressure was maintained without complaints of referred pain pattern. Patient's head was passively laterally flexed towards the affected side. The therapist then held forearm and moved the affected side shoulder passively to approximately 90 degree of abduction, while monitoring the tender point pain with the other hand. Then the fine tuning was made with slight flexion or

extension of the shoulder so that maximum ease was achieved. It was held for 20-30 s and repeated for three repetitions per session. Muscle Energy Technique(MET): The patient in supine position was asked to take the stabilized shoulder towards the ear (a shrug movement) and the ear towards the shoulder. The degree of contraction was mild and pain free (20% of maximum voluntary contraction). The contraction was sustained for 10 seconds. The therapist gently eased the head/neck into an increased degree of side bending and flexion to unaffected side and rotation to affected side. The stretch was maintained for 30 seconds and repeated for three repetitions per session. After applying technique, visual analog scale(VAS) was used to grade their level of neck pain and algometer to grade pressure pain threshold. One day after treatment visual analog scale(VAS) was used to grade their level of neck pain and algometer to grade pressure pain threshold. Treatment applied in one day. One day after treatment reassessment done. Outcome: Maybe pain of trigger points decrease or pressure pain threshold increase.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201412129440N8**

Registration date: **2015-09-12, 1394/06/21**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-09-12, 1394/06/21

Registrant information

Name

Soraya Pirouzi

Name of organization / entity

School of Rehabilitation Sciences, Shiraz University of Medical Sciences

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Shiraz University of Medical Sciences

Expected recruitment start date

2015-09-12, 1394/06/21

Expected recruitment end date

2015-09-15, 1394/06/24

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of integrated neuromuscular inhibition technique on trigger points pain threshold in patients with neck and shoulder muscles trigger points

Public title

The effect of combined physiotherapy technique on pain of neck and shoulder muscles painful points

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: age: 20-40 y/o ; presenting active myofascial trigger points in neck and shoulder muscles with pain recognition when pressure applied: Exclusion criteria: previous neck surgery(during last year) ; cervical radiculopathy ; participants with fibromyalgia syndrome

Age

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

Gender

Female

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **15**

Randomization (investigator's opinion)

N/A

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

Not blinded

Blinding description**Placebo**

Not used

Assignment

Single

Other design features**Secondary Ids**

empty

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

Ethic committee of Shiraz university of medical science

Street address

Central bulding of Shiraz university of medical science, Zand street, Shiraz

City

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Postal code

14336 - 71348

Approval date

2015-08-19, 1394/05/28

Ethics committee reference number

94-01-06-9808-55791

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

Trigger points pain

ICD-10 code

M70.8

ICD-10 code description

Other soft tissue disorders related to use, overuse and pressure

Primary outcomes**1****Description**

Pain intensity

Timepoint

Before treatment, After treatment, One day after treatment

Method of measurement

Visual analogue scale

2**Description**

Pressure pain threshold

Timepoint

Before treatment, After treatment, One day after treatment

Method of measurement

Algometer

Secondary outcomes

empty

Intervention groups

1

Description

Integrated neuromuscular inhibition technique in interventional group (no control group)

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Physiotherapy clinic of School of Rehabilitation Sciences, Shiraz

Full name of responsible person

Soraya Pirouzi

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School of Rehabilitation Sciences, Abiverdi1 street, Shiraz

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Shiraz University of Medical Sciences

Full name of responsible person

Dr Seyyed Basir Hashemi

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Shiraz

Grant name

Grant code / Reference number

-

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

Yes

Title of funding source

Vice chancellor for research, Shiraz 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

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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