Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 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 enroll- ment 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 directy 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 appling 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 reassesment 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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Iran (Islamic Republic of)

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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
Shiraz

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 analoge 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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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice chancellor for research, Shiraz University of Medical Sciences
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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
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

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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