

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Sep 2026

The effect of axioscapular muscles release technique on the thickness of axioscapular and neck stabilizer muscles in patients with nonspecific neck pain: A Randomized Clinical Controlled Trial

Protocol summary

Study aim

The aims of this study were to investigate the effect of axioscapular muscle release technique on the thickness of upper and middle trapezius and cross section of cervical multifidus and longus colli, pressure pain threshold, pain intensity and neck disability index, before and after of the intervention for patients with nonspecific neck pain and also compare these parameters with the control group.

Design

Clinical trial with control group, parallel groups, a control group and the other intervention group, single blind, randomized allocation, each group has 15 patients

Settings and conduct

This study will be done at Imam Clinic in Tabriz. Subjects in the intervention group will be treated for 3 days in a week for 10 sessions. The intervention group will be treated by routine physiotherapy and axioscapular muscle release technique. control group will be treated by routine physiotherapy. In this study, the assessors will be blind, they will not know how to randomize patients.

Participants/Inclusion and exclusion criteria

The patients with Visual Analogue Scale of neck pain at least 3 maximum 7, Neck Disability Index at least 10, maximum 40, have chronic neck pain and normal Body Mass Index were included in the study. people with neurological symptoms in their upper limbs, history of surgery, trauma in the neck and scapula. Women who are pregnant, Patients who have a pacemaker, malignancy, systemic rheumatic diseases and people who received scapular muscle release treatment 1 month before the study started were excluded from this study

Intervention groups

control group Will be treated by routine physiotherapy and intervention group will be treated by routine physiotherapy and axioscapular muscle release

technique

Main outcome variables

thickness of upper and middle trapezius, cross sectional of longus colli, cervical multifidus; pain intensity; neck disability and pressure pain threshold

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210524051386N1**

Registration date: **2021-12-27, 1400/10/06**

Registration timing: **prospective**

Last update: **2021-12-27, 1400/10/06**

Update count: **0**

Registration date

2021-12-27, 1400/10/06

Registrant information

Name

Bahram Amirshakeri

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-01-10, 1400/10/20

Expected recruitment end date

2022-05-10, 1401/02/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of axioscapular muscles release technique on the thickness of axioscapular and neck stabilizer muscles in patients with nonspecific neck pain: A Randomized Clinical Controlled Trial

Public title

The effect of scapular muscles release technique on the thickness of scapular and neck muscles in patients with nonspecific neck pain: A Randomized Clinical Controlled Trial

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

All patients whose nonspecific neck pain has been diagnosed by a neurosurgeon According to the physiotherapist, at least one active trigger point in the axioscapular muscles (upper trapezius and middle trapezius) Visual Analogue Scale of neck pain at least 3, maximum 7 Neck Disability Index at least 10, maximum 40 At least three months have passed since the onset of neck pain Normal Body Mass Index between 20 and 25

Exclusion criteria:

The patients with neurological symptoms and radiculopathy in their upper extremities Patients who have a pacemaker in the heart Patients with a history of surgery in the neck and scapula Patients who have a systemic rheumatic diseases Patients with congenital malformations in the neck and scapula Women who are pregnant Patients with a history of trauma in the neck and scapula Patients who have malignancy People who received scapular muscle release treatment 1 month before the study started

AgeFrom **18 years** old to **65 years** old**Gender**

Both

Phase

N/A

Groups that have been masked

- Investigator
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

Sample sizeTarget sample size: **30****Randomization (investigator's opinion)**

Randomized

Randomization description

Patients with non-specific neck pain who participated in this study will be divided into two groups A, B randomly, by statistical random allocation software. Then, for the ordering of people, randomly by software will be taken

by the same person who is not a member of the project group.

Blinding (investigator's opinion)

Single blinded

Blinding description

This is a single blind study. In this study, the patients were not blind. The physiotherapist whose duty is patients physiotherapy treatment is also not blind. However, the physiotherapist whose duty is to evaluate at the beginning and end of the physiotherapy sessions is blind, and the radiologist whose duty is to ultrasound the muscles at the beginning and the end of the physiotherapy sessions is blind.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Research Ethics Committees of Tabriz University of Medical Sciences

Street address

Rehabilitation Faculty of Tabriz University of Medical Sciences, Next to Vahdat Hall, Tabriz University, 29 Bahman Blvd, Tabriz City, Iran

City

Tabriz

Province

East Azarbaijan

Postal code

5166414766

Approval date

2021-10-25, 1400/08/03

Ethics committee reference number

IR.TBZMED.REC.1400.715

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

Chronic nonspecific neck pain

ICD-10 code

G89.29

ICD-10 code description

Other chronic pain

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

Thickness of upper trapezius, middle trapezius

Timepoint

Beginning of the study (before the intervention) and after the end of treatment sessions (10 sessions later)

Method of measurement

sonography siemens healthineers - acuson juniper

2

Description

cross sectional of longus colli, cervical multifidus

Timepoint

Beginning of the study (before the intervention) and after the end of treatment sessions (10 sessions later)

Method of measurement

sonography siemens healthineers - acuson juniper

Secondary outcomes

1

Description

Pain intensity

Timepoint

Beginning of the study (before the intervention) and after the end of treatment sessions (10 sessions later)

Method of measurement

Visual Analogue Scale

2

Description

Pressure Pain Threshold

Timepoint

Beginning of the study (before the intervention) and after the end of treatment sessions (10 sessions later)

Method of measurement

Digital Algometer

3

Description

neck disability

Timepoint

Beginning of the study (before the intervention) and after the end of treatment sessions (10 sessions later)

Method of measurement

Neck Disability Index Questionnaire (Iranian version)

Intervention groups

1

Description

intervention group: will be treated by routine physiotherapy and axioscapular muscle release technique, the routine physiotherapy including exercise therapy will be used as stretching exercises of shortened cervical muscles and strengthening weakened neck muscles, we will be used TENS which is conventional mode for 20 minutes, frequency of 100 Hz, period of 60 milliseconds and tolerable intensity for the patient. The

electrodes will be placed on both sides of the cervical vertebrae and the patient will be in a prone position, the ultrasound: that the patient is in a prone position and for 2 minutes, with 50% pulse, with frequency of 1 MHz and intensity of 1.5 on the sub occipital muscles will be performed, hot pack: will be performed on the cervical area for 20 minutes. And also patients counseling and training in terms of how to use the phone properly and ... In a training file, and they will be treated by special myofacial release technique in the axioscapular muscles (upper and middle trapezius) for them.

Category

Rehabilitation

2

Description

Control group: will be treated by routine physiotherapy, the routine physiotherapy including exercise therapy will be used as stretching exercises of shortened cervical muscles and strengthening weakened neck muscles, we will be used TENS which is conventional for 20 minutes, frequency of 100 Hz, period of 60 milliseconds and tolerable intensity for the patient. The electrodes will be placed on both sides of the cervical vertebrae and the patient will be in a prone position, the ultrasound that the patient is in a prone position and for 2 minutes, with 50% pulse, with frequency of 1 MHz and intensity of 1.5 on the sub occipital muscles will be performed, hot pack: will be performed on the cervical area for 20 minutes. And also patients counseling and training in terms of how to use the phone properly and... In a training file.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini Clinic

Full name of responsible person

Reza Bahrami Ilkhchi(neurosurgeon, assistant professor)

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Golshahr, Elgoli Road,Tabriz City

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Sponsors / Funding sources

Sponsor**Name of organization / entity**

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Full name of responsible person

Parviz Shabi

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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

Tabriz 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**

Tabriz University of Medical Sciences

Full name of responsible person

Bahram Amirshakri

Position

Assistant Professor, supervisor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

Tabriz University of Medical Sciences

Full name of responsible person

Bahram Amirshakeri

Position

Assistant professor, supervisor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data**Contact****Name of organization / entity**

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Position

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Latest degree

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Other areas of specialty/work

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available