Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Evaluation of the effect of scapulothorasic joint mobilization on pain intensity, pinch strength and upper limb function in patients with mechanical neck pain

Protocol summary

Summary

Evidences show a strong association between chronic neck and shoulder pain and scapular dysfunction. The objective of this study is evaluation of the effect of scapulothorasic joint mobilization on pain intensity, maximal pinch and grip strength and upper limb function in patients with mechanical neck pain. Inclusion criteria are: neck disability index between 10 to 45 percent; duration of the involvement more than three months; the scapular dyskinesia. Exclusion criteria are: History of whiplash injury; Surgery in the neck or upper limb and cervical Radiculopathy. This study is a single blinded randomized clinical trial. The sample size is 46 (23 patients in each group). The Patients who referred to the physiotherapy clinic of Shiraz school of rehabilitation sciences, recruited by convenience sampling method. The subjects in the control group receive routine physiotherapy and the subjects in the intervention group receive scapulothorasic joint mobilization beside routine physiotherapy. Both groups receive 5 treatment sessions in a week. Pain intensity, maximal fingers and grip strength before and immediately after the first session and at the end of the course of treatment measured by Pain Numeric Rating Scale, the Pinch Gage and dynamometer. Also functional disability of neck and upper extremity respectively will be measured with the Neck Disability Index and Disabilities of Arm, Shoulder and Hand questionnaire in two groups before and at the end of the course of treatment.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014100119358N1**
Registration date: **2014-12-08, 1393/09/17**
Registration timing: **registered_while_recruiting**
Last update:
Update count: **0**

Registration date

2014-12-08, 1393/09/17

Registrant information

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Name of organization / entity
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Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences

Expected recruitment start date

2014-09-23, 1393/07/01

Expected recruitment end date

2014-12-21, 1393/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of the effect of scapulothorasic joint mobilization on pain intensity, pinch strength and upper limb function in patients with mechanical neck pain

Public title

The effect of scapulothorasic joint mobilization on

treatment of patients with neck pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Complaint of mechanical neck pain (general pain in the neck that induced with movement or constant holding of neck and palpation of the neck muscles); age between 20-50 years; neck disability index between 10 to 45 percent; duration of the involvement more than three months; incorrect position of scapula and scapular dyskinesia. Exclusion criteria: History of whiplash injury; Surgery in the neck or upper limb; serious pathology (eg malignant tumor, infection, inflammatory disorders or fracture); any disease or disorder of the central nervous system including: stroke, MS and ...; any disease of peripheral nervous system which may affect the study results such as: neuropathies, carpal tunnel syndrome, Guyan tunnel syndrome and cervical radiculopathy.

Age

From **20 years** old to **50 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **46**

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

Shiraz University of Medical Sciences

Street address

Central building of Shiraz University of Medical Sciences, Zand avenue, Shiraz

City

Shiraz

Postal code

Approval date

2014-08-26, 1393/06/04

Ethics committee reference number

CT-9373-7113

Health conditions studied

1

Description of health condition studied

Mechanical neck pain

ICD-10 code

M95.3

ICD-10 code description

Acquired deformity of neck

Primary outcomes

1

Description

pain intensity

Timepoint

before and immediately after the first session and at the end of the course of treatment

Method of measurement

Pain Numeric Rating Scale

2

Description

maximum grip strength

Timepoint

before and immediately after the first session and at the end of the course of treatment

Method of measurement

Newton scale with digital dynamometer

3

Description

pinch strength

Timepoint

before and immediately after the first session and at the end of the course of treatment

Method of measurement

Newton scale with Pinch Gage

4

Description

Disability of upper limb

Timepoint

before and after intervention

Method of measurement

Disabilities of Arm, Shoulder and Hand questionnaire

5

Description

Disability of neck

Timepoint

before and after intervention

Method of measurement

Neck Disability Index

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: In the intervention group patients receive routine physical therapy treatment protocol for neck pain for 5 sessions over a week. The routine physical therapy treatment protocol contained: Transcutaneous electrical nerve stimulation: conventional mode, frequency 100 Hz, tolerable intensity for 20 min over the pain site; Hot pack: for 20 minutes on the neck; exercise therapy: - the patient place both hands on the forehead and press the forehead into the palms while not moving. - The patient press the back of the head into both hands. - the patient press one hand against the side of the head and attempt to side-bend, as if trying to bring the ear toward the shoulder but not allowing motion, this exercise done for both left and right side. Each patient does exercises 20 times in a day and holds contraction to 6 seconds. The intensity of the contraction must be maximum; scapulothorasic joint mobilization: In intervention group, mobilization techniques applied in the direction of the limited movements of scapula (Retraction, Depression, Elevation, Upward Rotation and Downward Rotation). Patient sleeps on the sound side, close to the edge of the bed. Her head is on the pillow and hips and knees are bent. The therapist stands in front of the patient's hip and bends on it, so that the patient's ileum taken by therapist's axilla. Then each of the techniques done on the intervention group. These techniques applied Sustained with grade 4. Each technique consists of 10 sets of 10 repetitions with 30 seconds rest between each set. Each movement hold 5 seconds and there are 3 seconds rest between each movement in each set. Patients in intervention group receive 5 sessions scapulothorasic joint mobilization in a week.

Category

Rehabilitation

2

Description

Control group: In the control group patients receive routine physical therapy treatment protocol for neck pain for 10 sessions over a week. The routine physical therapy treatment protocol contained: Transcutaneous electrical nerve stimulation: conventional mode, frequency 100 Hz, tolerable intensity for 20 min over the pain site; Hot pack: for 20 minutes on the neck; exercise therapy: - the patient place both hands on the forehead and press the forehead into the palms while not moving. - The patient press the back of the head into both hands. - the patient press one hand against the side of the head and attempt to side-bend, as if trying to bring the ear toward the shoulder but not allowing motion, this exercise done for both left and right side. Each patient does exercises 20 times in a day and holds contraction to 6 seconds. The intensity of the contraction must be maximum. Control group receive 5 treatment sessions in a week.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center
School of Rehabilitation Sciences

Full name of responsible person
Dr. Zahra Rojhani Shirazi

Street address
Abiverdi 1 Avenue, Chamran Blvd, Shiraz, Fars

City
Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Shiraz University of Medical Sciences

Full name of responsible person
Dr. Seyed Basir Hashemi

Street address
Central building of Shiraz University of Medical Sciences, Zand avenue, Shiraz

City
Shiraz

Grant name

Grant code / Reference number

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

Title of funding source
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