

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Ultrasonographic comparison of neck extensor muscle activity during upper limb resistance activity at diagonal pattern relative to unstable surface, in patients with chronic non-specific neck pain and healthy peoples

Protocol summary

Summary

1) Objectives: Common method of strengthening used today for extensor muscles of cervical spine are comprised of exercises that focus on cervical spine. Exercises that Patients with neck pain may not able to run properly because of pain in the area. Another method to activate cervical spine muscles is the use of movement and activity of the extremities. Also it was confirmed that unstable surfaces can cause a stronger contractions of the spinal muscles. So far a study that compare and investigate large effect of these two interventions on the performance of the neck muscles is not found and this study is designed to address these issues;. Method: A certain number of patients and healthy individuals (based on the pilot study) were selected and performance of their cervical extensor muscles during interventions is reviews;. Inclusion criteria: Healthy people and people with a diagnosis of chronic non-specific neck pain that at least 12 weeks They passed from the start of neck pain and as well as neck pain was not found to cause certain pathological reason;. Exclusion criteria: Presence of diseases such as fibromyalgia; myopathy; cervical radiculopathy; spinal surgery; postural disorders identified severe osteoarthritis; cervical rib and cervical whiplash injury. Interventions: 1) Diagonal movement of upper extremities in sitting on the stable and unstable surfaces 2) Sitting on an unstable surface without upper extremities movement. Muscle thickness measured by ultrasonography and changes in the thickness was considered as a measure of muscle function

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014042217394N1**

Registration date: **2014-11-10, 1393/08/19**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-11-10, 1393/08/19

Registrant information

Name

Mahdi Panahinasab

Name of organization / entity

Semnan University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Semnan University of Medical Sciences Basij Blv 00982333440225

Expected recruitment start date

2014-08-06, 1393/05/15

Expected recruitment end date

2014-10-07, 1393/07/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Ultrasonographic comparison of neck extensor muscle activity during upper limb resistance activity at diagonal pattern relative to unstable surface, in patients with chronic non-specific neck pain and healthy peoples

Public title

Ultrasonographic comparison of neck extensor muscle activity during upper limb resistance activity at diagonal pattern relative to unstable surface, in patients with chronic non-specific neck pain and healthy peoples

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Chronic non-specific neck pain, that at least 12 weeks They passed from the start of neck pain as well as neck pain was not found to cause certain pathological reason. Exclusion criteria: Patients having diseases such as fibromyalgia; myopathy; cervical radiculopathy; spinal surgery; marked postural abnormalities(such as scoliosis, kyphosis, forward head); severe osteoarthritis; cervical rib and cervical whiplash injury were not involved in the study. Also, lack of intense physical activity during the 3 days before the execution of test for all subjects, as inclusion criteria were considered. Patients with the following conditions were also excluded: 1) Diabetes, neuromuscular, cardiovascular and respiratory disorders; 2) Systemic disease and inflammatory, rheumatic disease; 3) Fresh fractures; 4) A history of neck surgery; 5) History of trauma and trauma to the neck; 6) Disc herniation; 7) symptoms of the pressure on the nerve root; 8) Polyneuropathy; 9) Lesions of peripheral nerves and malignancy and cancer In the neck region; 10) Spinal tumor; 11) Severe psychological illness.

Age

From **18 years** old to **45 years** old

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size:

Randomization (investigator's opinion)

N/A

Randomization description

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 Semnan University of Medical Sciences

Street address

Research and Educational Affair, Semnan university of Medical Sciences, Basij Blv

City

Semnan

Postal code

Approval date

2014-07-09, 1393/04/18

Ethics committee reference number

93/470211

Health conditions studied

1

Description of health condition studied

Chronic non-specific neck pain

ICD-10 code

M54.2

ICD-10 code description

Cervicalgia

Primary outcomes

1

Description

Muscles thicknesses

Timepoint

During intervention

Method of measurement

Ultrasonography

Secondary outcomes

empty

Intervention groups

1

Description

Volunteer sits on the stool in erect posture and examiner measures the thickness of the neck extensor muscles in this position by means of ultrasonography.

Category

Rehabilitation

2

Description

Volunteer sits on an unstable surface (swiss ball), in erect posture and examiner measures the thickness of the neck extensor muscles in this position by means of

ultrasonography.

Category

Rehabilitation

3

Description

Volunteer sits on an unstable surface (swiss ball) in erect posture and then brings up her upper limbs in a diagonal flexion pattern to a certain point and keeps it and examiner measures the thickness of the neck extensor muscles in this position by means of ultrasonography.

Category

Rehabilitation

4

Description

Volunteer sits on the stool and dumbbell at hand and then brings up her upper limbs in a diagonal flexion pattern to a certain point and keeps it and examiner measures the thickness of the neck extensor muscles in this position by means of ultrasonography.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Musculoskeletal Rehabilitation Research Center

Full name of responsible person

Rosita Hedayati

Street address

Mashahyr Square

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Semnan University of Medical Sciences

Full name of responsible person

Ali Rashidypour

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Semnan University of Medical Sciences, Basij Blv

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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, Semnan 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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Full name of responsible person

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Position

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Other areas of specialty/work

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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