Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 movment 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

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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

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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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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

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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