Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effectiveness of proprioceptive neuromuscular facilitation and stabilization exercises on cross sectional area of deep flexor muscles in chronic non-specific neck pain

Protocol summary

Summary

(1) Objective: The aim of this study was to determine and compare effectiveness of cervical stabilization exercises and proprioceptive neuromuscular facilitation exercises on crossed sectional area of deep flexor muscles in non-specific Chronic Neck Pain patients. (2) Design: This study is a kind of experimental study, clinical trial and it is done on forty four non-specific chronic neck pain patients. (3) Setting and conduct: Patients randomly assigned to two groups of stabilization exercises and proprioceptive neuromuscular facilitation. Pain, intensity of disability and cross sectional area of deep flexors of neck are measured with VAS, NDI questionnaires and ultrasonography respectively before and after intervention. Expected time for treatment of both groups is eight weeks.(4) Participants: Participants are from chronic neck pain patients that referred to clinics, later inclusion and exclusion criteria will be applied to them. (5) Intervention: In this study, interventions are stability and proprioceptive neuromuscular facilitation exercises of neck. (6) Variables: Pain, cross sectional area of muscles and neck disability index will be measured before and after intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016060128203N1**
Registration date: **2016-07-12, 1395/04/22**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2016-07-12, 1395/04/22

Registrant information

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Recruitment status

Recruitment complete

Funding source

Zahedan University of Medical Sciences

Expected recruitment start date

2016-04-08, 1395/01/20

Expected recruitment end date

2016-07-26, 1395/05/05

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of proprioceptive neuromuscular facilitation and stabilization exercises on cross sectional area of deep flexor muscles in chronic non-specific neck pain

Public title

Effectiveness of proprioceptive neuromuscular facilitation and stabilization exercises on cross sectional area of deep flexor muscles in chronic non-specific neck pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Men and women; Aged 20 to 50 years; With chronic non-specific neck pain; With BMI between 25 to 30. Exclusion criteria: Protrusion or Prolapse of disc with neurologic symptoms; Spinal surgery; Existence of certain structural damage in the neck; Neck pain caused by autoimmune diseases; Inflammation; Congenital deformity of spine; Compression fracture because of Osteoporosis; Stenosis and Spondylolysis or Spondylolisthesis; Myofacial Trigger Point; Shoulder injury; Rheumatoid arthritis; Pregnancy; Torticollis; Diabetes; Lung diseases; Myopathies; Cancer; History of physical therapy intervention on neck or shoulder in last three months; Physiotherapy; Chiropractic treatment; Osteopathy; Massage and so on to the neck or shoulders in the last three months.

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: **44**

Randomization (investigator's opinion)
Randomized

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 Zahedan University of Medical Sciences

Street address
Zahedan Medical School, Khalij Fars Boulevard, Zahedan, IRAN

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Zahedan

Postal code
9816743175

Approval date
2015-10-23, 1394/08/01

Ethics committee reference number
IR.zaums.rec.1394.271

Health conditions studied

1

Description of health condition studied
Chronic neck pain

ICD-10 code
M79.9

ICD-10 code description
Soft tissue disorder, unspecified

Primary outcomes

1

Description
Cross-sectional area of deep neck flexor

Timepoint
Before intervention and 2 months after intervention

Method of measurement
By ultrasonography and per square centimeter

Secondary outcomes

1

Description
Neck Disability Index

Timepoint
Before intervention and 2 months after intervention

Method of measurement
Neck Disability Index questionnaire

2

Description
Pain

Timepoint
Before intervention and 2 months after intervention

Method of measurement
Visual Analog Scale questionnaire

Intervention groups

1

Description
Stability group: Patient will train stability exercises of neck and shoulder for 8 weeks.

Category
Rehabilitation

2

Description
PNF group: In this group, patients will train proprioceptive neuromuscular facilitation exercises of neck and upper limbs daily for 8 weeks.

Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
University of Social Welfare and Rehabilitation Sciences
Full name of responsible person
Street address
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice-chancellor for research of Zahedan University of Medical Sciences
Full name of responsible person
Hoshang Rafighdoost
Street address
Zahedan Medical School, Khalij Fars Boulevard, Zahedan, IRAN
City
Zahedan
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 of Zahedan 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