Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison the effects of cervical mobilization techniques and neck stabilization exercises on cross-section of neck deep flexor muscles and position sense in patients with chronic non-specific neck pain

Protocol summary

Study aim
Determining and comparing the effect of neck vertebral mobilization techniques and neck stabilization exercises on the cross-section of the deep flexor muscles of the neck, sense of position, pain and disability in patients with non specific chronic neck pain

Design
The randomized controlled trial; double-blind; randomly divided into three groups of stabilization exercises, mobilization, and control using the permutation block method.

Settings and conduct
Razmjo Moghadam Physiotherapy Clinic Zahedan

Participants/Inclusion and exclusion criteria
Inclusion criteria: both sexes; aged 18 to 55 years; chronic nonspecific neck pain; body mass index between 18 and 30; neck disability index score equal to or greater than 5 out of 50; resting pain score at least 3 out of 10. Exclusion criteria: neck instability; signs or symptoms of vertebral artery insufficiency; severe osteoporosis; tumors; spinal tuberculosis; spinal diseases, etc; history of cervical spine surgery in the last 12 months; diagnosis of serious pathological disease of the spine (inflammatory spondyloarthropathy, fracture or infection); history of any treatment in 12 previous weeks; presence of neurological symptoms indicating pressure on the nerve root; pregnancy.

Intervention groups
Control group: Routine physiotherapy (tens, ultrasound and hot pack) for 6 weeks, 3 days per week. Stability Exercises Group: In addition to routine physiotherapy treatments, they receive stability exercises for 6 weeks, 3 times a week. Mobilization group: In addition to routine treatments, they receive mobilization techniques 3 times a week for 6 weeks.

Main outcome variables
Cross-sectional muscles of deep neck flexors, sense of position, pain and disability

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20160531028186N5**
Registration date: **2021-11-16, 1400/08/25**
Registration timing: **registered_while_recruiting**

Last update: **2021-11-16, 1400/08/25**
Update count: **0**

Registration date
2021-11-16, 1400/08/25

Registrant information

Name
Mohammad Hosseinifar

Name of organization / entity
Zahedan University of Medical Sciences

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-10-22, 1400/07/30

Expected recruitment end date
2022-03-19, 1400/12/28

Actual recruitment start date
empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison the effects of cervical mobilization techniques and neck stabilization exercises on cross-section of neck deep flexor muscles and position sense in patients with chronic non-specific neck pain

Public title

Effect of mobilization and stabilization exercises on treatment of neck pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Ms. and Mr. Ages between 18-55 years Have neck pain for which the treating physician did not state a specific cause and in clinical examination and radiography, no specific cause has been found for it Have neck pain that lasts 12 weeks or more Body mass index between 18 and 30 Neck disability index score equal to or greater than 5/50 The score of pain at rest is at least 3/10

Exclusion criteria:

The patient has a contraindication to mobilization. For example: neck instability, signs or symptoms of vertebral artery insufficiency, severe osteoporosis, tumors, spinal tuberculosis, spinal diseases, etc History of cervical spine surgery in the last 12 months Diagnosis of serious pathological disease of the spine (inflammatory spondyloarthropathy, fracture or infection) Existence of neurological symptoms indicating pressure on the nerve root Have a history of any treatment in the previous 12 weeks (physiotherapy, chiropractic, acupuncture and massage) Pregnancy

Age

From **18 years** old to **55 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **45**

Randomization (investigator's opinion)

Randomized

Randomization description

The randomization method is based on permutation blocks. It is an individual randomization unit. A table of random numbers is used. Participants in the study are selected based on simple and available sampling. Each person will be selected based on the inclusion criteria. Placing people in groups is based on permutation blocks.

Blinding (investigator's opinion)

Single blinded

Blinding description

The outcomes is assessed by another physiotherapist who is blind to the type of treatment being given to the patient.

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

Deputy of Research, Zahedan University of Medical Sciences, Jannat Blvd., Dr. Hesabi Sq

City

Zahedan

Province

Sistan-va-Balouchestan

Postal code

9816743463

Approval date

2021-10-15, 1400/07/23

Ethics committee reference number

IR.ZAUMS.REC.1400.235

Health conditions studied

1

Description of health condition studied

Non specific neck pain

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The cross-sectional area of the deep flexor muscles of the neck

Timepoint

Before and after the intervention period

Method of measurement

Using an ultrasonography device

2

Description

The degree of control of the sense of position of the head and neck

Timepoint

Before and after the intervention period

Method of measurement

Using a laser pointer placed on a wire-like device

Secondary outcomes

1

Description
Pain
Timepoint
Before and after the intervention period
Method of measurement
Using Visual Analog Scale (VAS) Questionnaire

2

Description
Disability
Timepoint
Before and after the intervention period
Method of measurement
Using Neck Disability Index (NDI) questionnaire

Intervention groups

1

Description
Stabilization exercises group: 18 sessions of treatment for 6 consecutive weeks, 3 times a week, each session for 25 to 30 minutes.Exercises 8-12 times for 10 seconds and with a break of 2 minutes between exercises.The first two weeks of exercise include chin tuck exercises for nerve growth (lying on your back, lying on your stomach, quadrupeds, and both legs) for the cervical spine.The second two-week exercise includes isometric neck exercises performed with a bandage. The exercises for the third two weeks include exercises that are done with the ball and with bandages.
Category
Rehabilitation

2

Description
Mobilization group: 18 sessions of treatment are performed for 6 consecutive weeks and 3 times per week. First, we apply a traction force to warm and relax the patient.Grade 2 and 3 mobilization will then be performed oscillatory for the C5-C6 neck segment.Two techniques of central posterior anterior force and unilateral posterior anterior force are used.Each technique 3 times and each time for 30 seconds and with oscillation of 1 Hz, and 1 minute rest is done between each repetition.
Category
Rehabilitation

3

Description
Control group: 18 treatment sessions for 6 weeks, 3 times a week and each session includes: Tens Conventional with a frequency of 80 Hz and a diversion of 120 milliseconds for 20 minutes, Hot Pack in the neck area for 20 minutes and Ultrasound with Continuous Mode and with an intensity of 1/5 watt per square centimeter
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Razmjo Moghadam Physiotherapy Clinic
Full name of responsible person
Dr. Mohammad Hosseinifar
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Ayatollah Kafami St., Razmjomoghaddam Laboratory, Department of Physiotherapy, Faculty of Rehabilitation Sciences
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Zahedan University of Medical Sciences
Full name of responsible person
Dr. Noor Mohammad Bakhshani
Street address
Dr. Hesabi Sq., Janat Blvd., Zahedan University of Medical Sciences, Zahedan Vice Chancellor for Research
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Vice Chancellor for Research, Zahedan 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
Zahedan University of Medical Sciences

Full name of responsible person
Dr. Mohammad Hosseinifar

Position
PhD in Physiotherapy

Latest degree
Ph.D.

Other areas of specialty/work
Physiotherapy

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

Study Protocol
Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form
Yes - There is a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
Yes - There is a plan to make this available

Data Dictionary
Yes - There is a plan to make this available

Title and more details about the data/document
All the main outcome data can be shared.

When the data will become available and for how long
6 months after printing the results

To whom data/document is available
Researchers working in academic and scientific institutions

Under which criteria data/document could be used
Researchers and experts in this field must ensure that

data is not misused.

From where data/document is obtainable

afsanehsamiei72@yahoo.com

What processes are involved for a request to access data/document

The applicant must be fully and transparently identified and express his intention at his request. About 2 to 4 weeks after verification, the data will reach him.

Comments