

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 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

Razmjoo 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

##### Country

Iran (Islamic Republic of)

##### Phone

+98 54 3329 1692

##### Email address

fardash\_s@zaums.ac.ir

##### 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

##### Street address

Ayatollah Kafami St., Razmjomoghaddam Laboratory, Department of Physiotherapy, Faculty of Rehabilitation Sciences

##### City

Zahedan

##### Province

Sistan-va-Balouchestan

##### Postal code

6485598136

##### Phone

+98 54 3321 7006

##### Email

fardash\_s@zaums.ac.ir

## 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

##### City

Zahedan

##### Province

Sistan-va-Balouchestan

##### Postal code

6458898136

##### Phone

+98 54 3329 5796

##### Email

nmbakhsha@zaums.ac.ir

#### 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

**Street address**

Department of Physiotherapy, Faculty of Rehabilitation Sciences, Razmojomoghadam Laboratory, Ayatollah Kafami St.

**City**

Zahedan

**Province**

Sistan-va-Balouchestan

**Postal code**

6485598136

**Phone**

+98 54 3342 4675

**Email**

fardash\_s@zaums.ac.ir

## Person responsible for scientific 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.

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Physiotherapy

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Sistan-va-Balouchestan

**Postal code**

6485598136

**Phone**

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**Email**

fardash\_s@zaums.ac.ir

## Person responsible for updating data

**Contact**

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Zahedan University of Medical Sciences

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**Latest degree**

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**Email**

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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**