

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Comparison the effect of neck stabilization exercises with and without thoracic mobility exercises on neck pain, range of motion, muscle endurance, proprioception and posture in women with chronic neck pain and forward head posture

Protocol summary

Study aim

Comparing the effects of neck stabilization exercises with and without thoracic mobility exercises on pain, range of motion, muscle endurance, neck proprioception and posture of women with chronic neck pain and head forward

Design

The sample size was done using G-POWER software, randomization was done with the random block method 1 at a ratio of 1:1, the current semi-experimental research of three groups, one blind strain, with a pre-test AND post-test research design with two intervention groups And a control group was done.

Settings and conduct

It was done as a single blind test in the sports club for 8 weeks.

Participants/Inclusion and exclusion criteria

Women 25 to 50 years old; People with non-specific chronic neck pain who have neck pain continuously for at least three months; In terms of the amount of pain, getting a rank between 3-7 in the visual pain grading system; Having a moderate disability index score, between 15-30 or 30% to 60% of the adjusted total score Questionnaire related to neck functional disability; Neck pain for which the specialist doctor did not mention a specific cause; People with forward head posture

Intervention groups

They were randomly divided into three groups of 12 people. The first group was neck stabilization exercises, the second group was neck stabilization exercises and thoracic mobility, and the third group was the control group.

Main outcome variables

independent variable: Corrective exercise program to stabilize the neck Thoracic region mobility training program dependent variable: Neck pain, neck range of

motion, neck muscle endurance, neck proprioception, posture

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220305054193N1**

Registration date: **2023-05-04, 1402/02/14**

Registration timing: **retrospective**

Last update: **2023-05-04, 1402/02/14**

Update count: **0**

Registration date

2023-05-04, 1402/02/14

Registrant information

Name

Zahra Mahmoudabadi

Name of organization / entity

Kharazmi University

Country

Iran (Islamic Republic of)

Phone

+98 25 3750 0977

Email address

zahramahmoudabadi@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-11-11, 1400/08/20

Expected recruitment end date

2022-01-21, 1400/11/01

Actual recruitment start date

2021-11-01, 1400/08/10

Actual recruitment end date

2022-01-21, 1400/11/01

Trial completion date

2022-01-21, 1400/11/01

Scientific title

Comparison the effect of neck stabilization exercises with and without thoracic mobility exercises on neck pain, range of motion, muscle endurance, proprioception and posture in women with chronic neck pain and forward head posture

Public title

Comparison the effect of neck stabilization exercises with and without thoracic mobility exercises on neck pain, range of motion, muscle endurance, proprioception and posture in women with chronic neck pain and forward head posture

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Women 25 to 50 years old people with non-specific chronic neck pain obtaining a suitable rating of pain and average disability index people with forward head posture

Exclusion criteria:

Having any history of fracture and surgery in the shoulder joint Craniovertebral angle less than 45 degrees and more than 60 degrees Failure to regularly participate in training programs for two consecutive sessions and three non-consecutive sessions Spine surgery Presence of specific structural damage in the neck

AgeFrom **25 years** old to **50 years** old**Gender**

Female

Phase

N/A

Groups that have been masked

- Participant

Sample sizeTarget sample size: **36**Actual sample size reached: **36****Randomization (investigator's opinion)**

Randomized

Randomization description

balance blocked randomization

Blinding (investigator's opinion)

Single blinded

Blinding description

The participants were not informed about the type and purpose of interventions and evaluations.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee of Iran Sports Science Research Institute

Street address

19 D Street, Bitarfan Street, Shahid Tarabian Alley

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Postal code

3713695585

Approval date

2021-09-24, 1400/07/02

Ethics committee reference number

SSRI.REC-2107-1144

Health conditions studied**1****Description of health condition studied**

Chronic neck pain and forward head posture

ICD-10 code

M50

ICD-10 code description

Cervical disc disorders

Primary outcomes**1****Description**

Corrective neck stabilizing exercise program with and without thoracic region mobility exercises on neck pain, neck range of motion, neck muscle endurance, neck proprioception, and forward head posture

Timepoint

It was measured before the start and after 8 weeks

Method of measurement

Digital camera to take pictures and measure posture - Neck disability index questionnaire to measure neck disability - Visual pain scale (VAS) to measure pain - Goniometer to measure range of motion - Laser and headband to measure proprioception - Pressure biofeedback tool to measure Endurance of the deep muscles of the neck - 3.600 kg weight for functional endurance of the neck - weight and dumbbells and big ball and foam roll for exercises

Secondary outcomes

1

Description

The amount of head forward - pain - disability - endurance - sense of proprioception

Timepoint

before the start of the intervention and at the end of the intervention (eight weeks)

Method of measurement

Head forward using video camera and Quinoa software - Endurance using pile test - Proprioception using laser pointer - Pain using visual scale of pain and disability using ndi form

Intervention groups

1

Description

Intervention group: 1 Neck stabilizing exercises

Category

Rehabilitation

2

Description

Intervention group: 2 Neck stabilization exercises with thoracic mobility

Category

Rehabilitation

3

Description

Control group: 3 control groups only received educational guidance.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

WINNER GYM

Full name of responsible person

Zahra Mahmoudabadi

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Shahid Dagaighi Square, the beginning of Ansar Al Hussein Blvd., No. 8

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Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

kharazmi University

Full name of responsible person

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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

Zahra Mahmoudabadi

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Persons

Person responsible for general inquiries

Contact

Name of organization / entity

Kharazmi University

Full name of responsible person

Zahra Mahmoudabadi

Position

Master of Science

Latest degree

Bachelor

Other areas of specialty/work

Corrective movements and pathology

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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)

Undecided - It is not yet known if there will be 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

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

Clinical Study Report

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

Analytic Code

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

Data Dictionary

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