Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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)

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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
Age
From **25 years** old to **50 years** old
Gender
Female

Phase
N/A
Groups that have been masked

- Participant

Sample size
Target 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
City
QOM
Province
Ghoum
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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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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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