

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

Effect of eight week corrective exercise programme on posture, Electromyography. Isokinetic strength and range of motion shoulder and neck in person with forward head posture

Protocol summary

Study aim

aimed to evaluate effect of 8 week selective corrective exercise programme on upper quadrant posture and posture, Electromyography. Isokinetic strength and range of motion in person with forward head posture

Design

The randomized controlled trial is a single blinded with a pre and post-test design. 36 people will participate in this study and will assign to two groups of training and control with 1:1 ratio, based on computer generated algorithm

Settings and conduct

before and after intervention, Head angle will be measured by photogrammetry, neck range of motion by universal goniometer by Clarkson method, and neck muscle surface activity by biometric electromyography with surface electrodes. The main evaluator is not aware of how individuals are assigned to the groups. participated were asked not to talk about the exercises they were taking with the assessor or anyone else who was not attending the training sessions.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Men with head forward more than 46 degrees, lack of regular participation in overhead activities , Exclusion criteria: history of surgery or fracture of the upper limbs and neck, scoliosis

Intervention groups

exercise group will receive corrective exercise program included stretching, strengthening, and stabilization exercises This 8-week training program will perform with three sessions per week, each lasting <50 minutes The control group does not receive any intervention. Participants confirmed that they did not undertake any specific exercise for their neck and shoulder girdle muscles during the duration of the study; however after the last measurement, they were offered a 1-hour individually supervised instruction of the exercise

program.

Main outcome variables

A change in head posture, muscle strength and electromyography, head and shoulder range of motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200203046364N1**

Registration date: **2021-11-18, 1400/08/27**

Registration timing: **retrospective**

Last update: **2021-11-18, 1400/08/27**

Update count: **0**

Registration date

2021-11-18, 1400/08/27

Registrant information

Name

Rasoul Arshadi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 44 4526 4408

Email address

rasoul.arshady@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-07-11, 1400/04/20

Expected recruitment end date

2021-08-11, 1400/05/20

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of eight week corrective exercise programme on posture, Electromyography. Isokinetic strength and range of motion shoulder and neck in person with forward head posture

Public title
The effect of a 8-week exercise program on head posture, muscle strength and muscle activity and neck and shoulder range of motion

Purpose
Education/Guidance

Inclusion/Exclusion criteria
Inclusion criteria:
fhp angle above 46, having not regular participation in overhead activities
Exclusion criteria:
Having a history of surgery or fractures of upper limbs or spine over the past year scoliosis neurologic disease

Age
From **20 years** old to **25 years** old

Gender
Male

Phase
N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **35**

Randomization (investigator's opinion)
Randomized

Randomization description
computer-based randomization was performed in a 1:1 ratio to exercise group or control group, using computer-generated permuted-block randomization (Random Allocation software version 1.0) with a random block size of 4 and 6. Sealed opaque envelopes were used to conceal random allocation. According to the sample size, letter envelopes were prepared and each of the random sequences was recorded on the card and placed in the letter envelopes, respectively. The letter envelopes were then stapled and placed in a box. Envelopes were also numbered in the same order to maintain a random sequence. Each participant opened one of the envelopes and thus allocation to each group was determined.

Blinding (investigator's opinion)
Single blinded

Blinding description
In this study, the assessors did not know which of the participants in the groups was being evaluated. To blind the assessors, they were not aware of the grouping of individuals (which group they were a member of). Also, the data analyzer was not aware of group allocation of participants. For this purpose, the data of groups was

provided to the data analyzer in such a way that he was not informed about the grouping of individuals

Placebo
Not used

Assignment
Other

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Isfahan University of Medical Sciences

Street address

Azadi Sq., Isfahan university, sport science faculty

City

Isfahan

Province

Isfahan

Postal code

8174673441

Approval date

2018-02-24, 1396/12/05

Ethics committee reference number

IR.UI.REC.1396.044

Health conditions studied

1

Description of health condition studied

forward head posture

ICD-10 code

M62.9

ICD-10 code description

Disorder of muscle, unspecified

Primary outcomes

1

Description

muscle activity of neck and scapular muscle activity

Timepoint

before after corrective exercise implementation

Method of measurement

A portable surface EMG device (DataLog p3X8, Biometrics, UK)

2

Description

neck range of motion

Timepoint

Before training and one week after the end of the

training program
Method of measurement
Neck range of motion assessed in sagittal plane by
Universal goniometer (baseline, USA)

3

Description
head angle
Timepoint
Before training and one week after the end of the
training program
Method of measurement
by A digital camera (sony 14 megapixel, Japan)
according photogrammetric method

4

Description
isokinetic strength of shoulder
Timepoint
Before training and one week after the end of the
training program
Method of measurement
shoulder strength was measured at 45 degree of
shoulder abduction and 90 degree of elbow flexion by
isokinetic dynamometer (biodex system 4)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: The training program included
stretching, strengthening, and stabilization exercises
This 8-week training program will be performed with
three sessions per week, each lasting <50 minutes. To
enhance exercise efficacy, exercise variation was set
according to the ACSM recommendations. All training
sessions contained three phases: standard warm-up, the
main part, and cool-down. the duration of the stretching
exercises will be 30 seconds for the initial sessions,
which will be added five more seconds every two weeks .
Carnicervical flexion training consisted of movements
that will be done without any load in prone and
quadruped positions; and progression in these
movements will be based on an increase in the repetition
of correct movement, duration of holding given position,
and the range of motion, as well.

Category
Rehabilitation

2

Description
Control group: Control group: will not do any special
exercises, they are only asked to avoid participating in
overhead activities or any strengthening activities that
affect the upper quadrant area.

Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Tabriz medical science university
Full name of responsible person
Rasoul arshadi
Street address
29 bahman ave, university of tabriz
City
Tabriz
Province
East Azarbaijan
Postal code
5166616471
Phone
+98 41 3334 4273
Email
asgri@tabrizu.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
university of Isfahan
Full name of responsible person
Gholam ali Ghasemi
Street address
Azadi Sq., Isfahan university, sport science faculty
City
Isfahan
Province
Isfahan
Postal code
8174673441
Phone
+98 31 3793 2571
Email
Gh.ghasemi@spr.ui.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
university of Isfahan
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**

University of Isfahan

Full name of responsible person

Rasoul Arshadi

Position

Consultant

Latest degree

Ph.D.

Other areas of specialty/work

posture health provider

Street address

Azadi Sq., Isfahan university, sport science faculty

City

Isfahan

Province

Isfahan

Postal code

8174673441

Phone

+98 31 3793 2571

Email

rasoul.arshady@yahoo.com

Person responsible for scientific inquiries**Contact****Name of organization / entity**

university of Isfahan

Full name of responsible person

Gholam Ali Ghasemi

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

corrective exercise and sports injuries

Street address

Azadi Sq., Isfahan university, sport science faculty

City

Isfahan

Province

Isfahan

Postal code

8174673441

Phone

+98 31 3793 2571

Email

Gh.ghasemi@spr.ui.ac.ir

Person responsible for updating data**Contact****Name of organization / entity**

university of Isfahan

Full name of responsible person

Gholam Ali Ghasemi

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

corrective exercise and sports injuries

Street address

Azadi Sq., Isfahan university, sport science faculty

City

Isfahan

Province

Isfahan

Postal code

8174673441

Phone

+98 31 3793 2571

Email

Gh.ghasemi@spr.ui.ac.ir

Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is 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

Title and more details about the data/document

related data about outcomes

When the data will become available and for how long

one year after the publication of the article

To whom data/document is available

researchers, university students

Under which criteria data/document could be used

for study purpose

From where data/document is obtainable

Gholam Ali Ghasemi. Department of Sport Injuries and Corrective Exercises, Faculty of Sport Sciences, University of Isfahan, Isfahan, Iran

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

Contact with Correspond author via Official Email

Comments