

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Effects of postural corrective exercises on musculoskeletal and neurocognitive parameters in women with forward head posture

Protocol summary

Summary

Forward head posture is one of the more incidence postural misalignments in the upper quart of the body which is seen in all of the ages. According to the vital role of head and neck in motor control and co-ordination, until now there is not any study about the effects of correction of forward head posture on neurocognitive system function. So the aim of this study is investigation of the effects of postural corrective exercise on improvement of musculoskeletal and neurocognitive parameters before and after of treatment. At first, craniovertebral angle will measure with photogrammetry and if this angle be less than 50 degree the subject will enter to the study. Neurocognitive parameters such as audio and visual reaction times and anticipation skills will estimate by use of SART software. The strength of upper and middle trapezious muscle will measure with dynamometer. Neck flexion range of motion will detect by goniometer. Then corrective postural exercise consist of two strengthening exercise (scapular retractor muscles and deep flexor muscles) and two stretching exercise(pectoralis and sternocleidomastoid muscles) will educate to the subjects. Subjects do these exercises 4 times per week during 4 weeks.for strengthening of deep flexor muscles, the subject do chintak exercise for 6 S. For strengthening of scapular retractor muscles, he adducts his scapulae against the resistance of elastic bar and maintain this position for 6 S.For stretching of pectoralis muscleshe grasp a wand and hold it behind her neck for 30 S and for SCM stretching he clos her left ear to his left shoulder and hold for 30 S. All of the outcomes will measure again in the end of the 4 weeks.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015120912210N3**

Registration date: **2017-02-19, 1395/12/01**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-02-19, 1395/12/01

Registrant information

Name

Azadeh Shadmehr

Name of organization / entity

Tehran University of Medical Sciences

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Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Sciences

Expected recruitment start date

2016-04-20, 1395/02/01

Expected recruitment end date

2016-08-22, 1395/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of postural corrective exercises on musculoskeletal and neurocognitive parameters in women with forward head posture

Public title

Effects of 1 corrective exercises for body position on musculoskeletal and neurocognitive parameters in women with forward head

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: female 20 - 30 years old; cranio vertebral angle below 50 degree, at least pre BSc .

Exclusion criteria: visual and auditory problems,using of glasses or contact lens; history of chronic or acute neurologic, cardiac or metabolic disease; history of psycho- neurosis disease; postural control and stability dysfunction; forward shoulder angle more than 52 degree; BMI more than 30; use of drugs with effects on motor cognition function; use of stimulant drinks such as caffeine and alcohol 48 h before study participation; subjects do not want to continuous tests.

Age

From **20 years** old to **30 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **20**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tehran University of Medical Sciences

Street address

Tehran University of Medical Sciences, Qhods St.,
Keshavarz blvd.

City

Tehran

Postal code

Approval date

2016-08-20, 1395/05/30

Ethics committee reference number

IR.TUMS.VCR.REC.1395.467

Health conditions studied

1

Description of health condition studied

Forward head posture

ICD-10 code

M62.6

ICD-10 code description

Muscle strain

Primary outcomes

1

Description

range of motion

Timepoint

before - after - 4 weeks after intervention

Method of measurement

goniometer

2

Description

muscle strenght

Timepoint

before - after - 4 weeks after intervention

Method of measurement

dynamometer

3

Description

craniovertebral angel

Timepoint

before - after - 4 weeks after intervention

Method of measurement

goniometer

4

Description

reaction time

Timepoint

before - after - 4 weeks after intervention

Method of measurement

SART software

5

Description

anticipation skill

Timepoint

before - after - 4 weeks after intervention

Method of measurement

SART software

Secondary outcomes

empty

Intervention groups

1

Description

1.deep neck flexor strength 2. scapular retractors strength 3. pectoralis muscles stretch 4. sternocleidomastoids muscles stretch

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Tehran University of Medical Sciences

Full name of responsible person

Azadeh Shadmehr

Street address

City

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Shabnam Nouroozzadeh

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Tehran University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty