Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 sternocloidomastoid 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 excercise for 6 S. For strengthening of scapular retractor muscles, he adducts his scapulaes 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

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Name of organization / entity

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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 l 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 strenght 3. pectoralis muscles stretch 4. sternocloidomastoids 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
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Sponsors / Funding sources

1

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Name of organization / entity
Tehran University of Medical Sciences
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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

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Email

Web page address

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