Clinical Trial Protocol
Iranian Registry of Clinical Trials

19 Sep 2026

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

Protocol summary

Summary

The aim of this study is to evaluate the effect of postural corrective exercise on musculoskeletal and neurocognitive parameters and also the correlation between musculoskeletal and neurocognitive parameters before and after intervention. this study is designed as a semiexperimental, interventional study(before and after)with only one group. our subjects are the female students of rehabilitation school of tums, all of them will sign an informed consent form before data collection. We consider 20 persons for sampling size. the subjects are screened before inclusion in the study by measuring the craniovertebral angle, if this angle is less than 50, then the subject is selected for study. neurocognitive parameters (inclusion of visual choice RT, visual complex choice RT, auditory choice RT, auditory complex choice RT, low speed anticipation and high speed anticipation) is measured by SART software. The middle and lower trapezius strength is measured by dynamometer and goniometer is used to measure neck ROM. Following the testing program, subjects will receive posture corrective exercise program in the form of two strengthening(deep cervical flexors and shoulder retractors)and two stretching (pectoral muscle and sternocleidomastoid)exercise. these intervention program lasts for 4 weeks and is repeated 4 times per week.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016102630516N1**
Registration date: **2016-11-26, 1395/09/06**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2016-11-26, 1395/09/06

Registrant information

Name

Zahra Abdollahzade

Name of organization / entity

Tehran university of medical science

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Rehabilitation school of tums

Expected recruitment start date

2016-12-05, 1395/09/15

Expected recruitment end date

2017-01-20, 1395/11/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

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

Public title

Effects of corrective exercise on cognitive and muscular factor

Purpose

Treatment

Inclusion/Exclusion criteria

INCLIUSION CRITERIA: CVA<50 Women. at the age of 20-30. Not having vision or hearing problems and eyeglasses, contact lenses and hearing aids do not use. No history of acute or chronic diseases such as neurological, cardiovascular or metabolic . VAS<2(lumbar and cervical). BMI<30. Not having musculoskeletal injury during one years ago. Having associate degree at least. Avoid taking any medication affecting the motor function and cognition. Avoid taking stimulants like coffee and alcohol drink. Not having head injury. Not having impairment of balance. Not having fracture or surgery of shoulder & spine. Not having mental illness. EXCLUSION CRITERIA: Not wanting people to test. be tired, headache, disturbed individual and the inability to continue testing.

Age

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

Gender

Female

Phase

2-3

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

Ethics Committee of Tehran university of medical science

Street address

central office of TUMS,corner of Ghods St,Keshavarz BLvd,Tehran

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

XIII(M62.4

ICD-10 code description

Disorders of muscles

Primary outcomes

1

Description

craniovertebral angle

Timepoint

before intervention.after 1month

Method of measurement

Image J software

2

Description

visual choice reaction time

Timepoint

before intervention.after 1month

Method of measurement

SART software

3

Description

visual complex choice reaction time

Timepoint

before intervention.after 1month

Method of measurement

SART software

4

Description

auditory choice reaction time

Timepoint

before intervention.after 1month

Method of measurement

SART software

5

Description

auditorycomplex choice reaction time

Timepoint

before intervention.after 1month

Method of measurement

SART software

6

Description

low speed anticipation

Timepoint

before intervention.after 1month

Method of measurement

SART software

7

Description

high speed anticipation

Timepoint

before intervention.after 1month

Method of measurement

SART software

Secondary outcomes

1

Description

range of motion neck flexion

Timepoint

before intervention,after one month

Method of measurement

goniometer

2

Description

middle trapezius muscles strength

Timepoint

before intervention,after one month

Method of measurement

dynamometer

3

Description

lower trapezius muscles strength

Timepoint

before intervention,after one month

Method of measurement

dynamometer

Intervention groups

1

Description

The intervention of this study is postural corrective exercise in the form of of two strengthening (deep cervical flexors and shoulder retractors)and two stretching (pectoral muscles and sternocleidomastoid)exercises. The participants are asked to perform 3 sets of 12 repetitions of strengthening exercises and 2 stretching exercises held for 30 seconds each. 30 seconds as a rest time is considered between each exercise. the intervention protocol lasts for 4 weeks and is repeated 4 times per week. this intervention program takes an average of 15 min.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Rehabilitation school of tums

Full name of responsible person

Zahra Abdollahzade.MSc student

Street address

between Sadi St &Darvazeh shemiran,Enqelab St,Tehran

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

vice chancellor for research,Tehran university of Medical science

Full name of responsible person

Dr.Azade Shadmehr

Street address

central office of TUMS,corner of ghods ST,Keshavarz BLvd,Tehran

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

vice chancellor for research,Tehran university of Medical science

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

rehabilitation school of Tehran university of medical science

Full name of responsible person

Zahra Abdollahzade

Position

MSc student

Other areas of specialty/work

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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