

Clinical Trial Protocol

Iranian Registry of Clinical Trials

05 Aug 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

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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

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