

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jun 2026

The effect of corrective exercises on head and shoulder posture, strength and endurance of neck muscles in smartphone users

Protocol summary

Study aim

The purpose of this study is to investigate the effect of eight weeks of corrective exercises on head and shoulder angle, strength and endurance of neck muscles in teenagers who use smart phones.

Design

A clinical trial with two exercise groups of corrective and control movements, with parallel groups, single blind, randomized on 40 participants. Randomization is done based on the Random Number Generator software and will be assigned to double groups based on the concealment of allocation using the SNOSE method.

Settings and conduct

This study will be done in a single blind manner. The tests will be taken in the sports rehabilitation laboratory of Bu Ali Sina University in Hamedan by experts in this field; Then intervention and exercises will take place in the sports hall of this university.

Participants/Inclusion and exclusion criteria

Entry criteria: female students aged 12-17 who receive or send at least 25 text messages or emails per day; They surf the web and play games on a smart phone for at least one hour a day, and use a smart phone for at least three hours a day; Exclusion criteria: Congenital disorders and insufficiency in the neck and spine, history of trauma and skeletal-muscular damage in the upper limb, any protrusion of the disc in the cervical vertebrae or damage in it, having any history of surgery in the upper limb Having any physical activity outside of the program of corrective exercises that affects the results of the research.

Intervention groups

Corrective exercises group: stretching, strength and endurance exercises for the head and shoulder areas for eight weeks and three one-hour sessions every week.

Control group: no intervention

Main outcome variables

Upper body deformities

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230711058742N1**

Registration date: **2023-10-14, 1402/07/22**

Registration timing: **prospective**

Last update: **2023-10-14, 1402/07/22**

Update count: **0**

Registration date

2023-10-14, 1402/07/22

Registrant information

Name

Fateme Yaghobi

Name of organization / entity

Bu-Ali Sina University in Hamadan

Country

Iran (Islamic Republic of)

Phone

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-10-23, 1402/08/01

Expected recruitment end date

2023-11-01, 1402/08/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of corrective exercises on head and shoulder posture, strength and endurance of neck muscles in smartphone users

Public title

The effect of corrective exercises on the condition of the upper limbs in smartphone users

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Subject receive or send at least 25 text messages or emails daily The subject plays game at least one hour a day with a smart phone The subject spends at least one hour of web surfing with a smart phone every day In addition to the above the subject uses a smartphone for at least three hours a day In order to ensure the consent of people to participate in this research a written consent form will be provided to them and all the possible risks of the test will be explained to the subjects People participating in the test are free to participate or not participate in the test and after declaring their agreement they can leave the test whenever they want

Exclusion criteria:

Congenital disorders and insufficiency in the neck and spine. History of trauma and musculoskeletal injury in the upper limb. Having any history of surgery in the upper limb. Having any disc protrusion in the cervical vertebrae or damage in it.

Age

From **12 years** old to **17 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization is done based on the Random Number Generator software, and they will be assigned to double groups based on the allocation concealment using the SNOSE method. The randomization of subjects is done in two stages. First, each of the subjects chooses a number between 1-40 using a lottery, then twenty random numbers are selected between the numbers 1-40 using the Random number generator software and according to the generated numbers And the selected numbers of subjects are divided into two groups.

Blinding (investigator's opinion)

Single blinded

Blinding description

In this study, the outcome assessors (laboratory technicians) are asked to take the desired tests from the clients. These people will be unaware of the purpose of the research, the allocation of study groups, and the reason for the subjects' presence in the laboratory, and

they will only evaluate the variables and record their observations.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Bu Ali Sina University

Street address

Bu Ali Sina University, Ahmadi Roshan Blvd, Hamadan Town

City

Hamadan

Province

Hamadan

Postal code

6517838695

Approval date

2023-01-12, 1401/10/22

Ethics committee reference number

IR.BASU.REC.1402.021

Health conditions studied

1

Description of health condition studied

text neck syndrom

ICD-10 code

M54. 2

ICD-10 code description

M54. 2 is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. The 2023 edition of ICD-10-CM M54.

Primary outcomes

1

Description

Head and shoulder angle

Timepoint

Before the intervention begins, one day after the end intervention

Method of measurement

Kinovea software

2

Description

The strength of neck muscles

Timepoint

Before the intervention begins, one day after the end intervention

Method of measurement

dynamometer

3

Description

The endurance of the neck muscles

Timepoint

Before the intervention begins, one day after the end intervention

Method of measurement

Field test and chronometer

4

Description

Flexibility of Pectoralis minor and Latissimus dorsi muscles

Timepoint

Before the intervention begins, one day after the end intervention

Method of measurement

scaled ruler

5

Description

Neck disability index

Timepoint

Before the intervention begins, one day after the end intervention

Method of measurement

NDI questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Corrective exercises group: The intervention will include stretching, strength and endurance exercises for the head and shoulders for 8 weeks and 3 sessions of 1 hour each week. Exercises do not require special equipment.

Category

Rehabilitation

2

Description

Control group: No Intervention

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Hamadan Province General Department of Education

Full name of responsible person

Mahmoud Naqvi

Street address

Hamadan Province General Department of Education, Farhang Street, Taleqani Street, Hamadan Town

City

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6515738448

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Bu Ali Sina University

Full name of responsible person

Farzane Saki

Street address

Bu Ali Sina University, Ahmadi Roshan Blvd, Hamadan Town

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6517838695

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f.sport2008@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Bu Ali Sina University

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

Bu Ali Sina University of Hamadan

Full name of responsible person

Fateme Yaghobi

Position

Master Student

Latest degree

Bachelor

Other areas of specialty/work

Sport Rehabilitation

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Person responsible for scientific inquiries

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be 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