Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

The effect of corrective exercises on head and shoulder posture, strength and endurance of neckmuscles 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, singel 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)

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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 neckmuscles 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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Province
Hamadan
Postal code
6515738448
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dnp@medu.ir

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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Email
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 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