

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

The Effect of an 8-Week Combined Tele-Exercises on Balance, Forward Head, Proprioception and Neck Muscle Endurance of Students With Visual Impairment

Protocol summary

Study aim

The Effect of an 8 Week Combined Tele Exercises on Balance, Forward Head, Proprioception and Neck Muscle Endurance of Students with Visual Impairment

Design

The clinical trial has 30 participants in two groups of 15 experimental and control, without blinding, randomly classified.

Settings and conduct

After carefully evaluating the criteria for entering the research, the dependent variables will be evaluated with standard tests and the results will be recorded. At the end of the course, the variables are tested again and the secondary and primary results are compared to evaluate the effectiveness of the exercises.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Presence of: Legal or educational low vision, Students 7 to 18 years old, Craniovertebral angle less than 50 degrees, Interest and written consent; Absence of: Acute height disorders, Hearing and nervous system defects, Fractures and severe pain in neck, Exercise programs, Occupational therapy or regular corrective exercises, Mental illness, Other disabilities; Non-inclusion criteria: Non-adherence to exercise program, Acute heart and respiratory problems, History of sensitive eye surgeries

Intervention groups

The experimental group will receive and perform Ultimate Fit (UF) training for 8 weeks via cyberspace (mobile). The control group will not receive training during the same period.

Main outcome variables

Balance, Forward head, Proprioception and Endurance of neck muscles

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210723051960N1**

Registration date: **2021-08-18, 1400/05/27**

Registration timing: **prospective**

Last update: **2021-08-18, 1400/05/27**

Update count: **0**

Registration date

2021-08-18, 1400/05/27

Registrant information

Name

Zahra Ebrahimi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3776 6701

Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-08-21, 1400/05/30

Expected recruitment end date

2021-10-21, 1400/07/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Effect of an 8-Week Combined Tele-Exercises on Balance, Forward Head, Proprioception and Neck Muscle Endurance of Students With Visual Impairment

Public title

The Effect of Corrective Exercises on Balance, Head Alignment, Sense of Position and Neck Endurance of Visually Impaired Students

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Craniovertebral angle less than 50 degrees Interest and written consent of parents and students Educational (use of large-print book) or legal visual impairment (visual acuity between 20/70 and 20/200 in the better eye after vision correction) 7-18 years old students

Exclusion criteria:

Acute erectile deformity and apparent differences in limb length Nervous system and auditory system defects Fractures, surgery or joint diseases of the spine Dizziness, headache and severe pain in the neck or upper limbs A history of regular exercise, occupational therapy, or correctional exercises in the past year Mental diseases Other disabilities

Age

From **7 years** old to **18 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, we will use the Restricted randomization method for all study groups with equal sample size, and among the various restricted randomization methods, we will use Stratified randomization before random allocation, so that both groups in terms of severity of visual impairment and age become homogeneous as far as possible. First, students with more severe visual impairments will be grouped according to the age (or educational level) component. Thus, we consider a number for each person. We throw the balls (sheets) into a container and then randomly remove the balls (sheets) from the container without replacement. We record the generated sequence and place it in two groups of control and experimental. Then we will divide the rest of the participants who have milder visual impairment according to their age (or educational level) in the same way (using balls (sheets) without replacement), and will place them in two groups of control and experimental. Concealment will not be performed as it is not possible to disclose random sequencing and be aware of subsequent allocation.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee of Islamic Azad University, Isfahan Branch (Khorasgan)

Street address

University Blvd, Arghavanieh, East Jay St

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Postal code

81551-39998

Approval date

2021-07-07, 1400/04/16

Ethics committee reference number

IR.IAU.KHUISF.REC.1400.086

Health conditions studied**1****Description of health condition studied**

Balance

ICD-10 code**ICD-10 code description****2****Description of health condition studied**

Forward head

ICD-10 code**ICD-10 code description****3****Description of health condition studied**

Neck proprioception

ICD-10 code**ICD-10 code description****4****Description of health condition studied**

Neck muscle endurance

ICD-10 code**ICD-10 code description**

Primary outcomes

1

Description

Static balance

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using a single-legged standing test with open eyes

2

Description

Dynamic balance

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using the modified star excursion balance test

3

Description

Forward head

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using a photo of the lateral view of people and measuring the cranio-cervical angle by Kinovea software

4

Description

Repositioning error

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using laser marker and calibrated screen

5

Description

Endurance of the deep flexor muscles of the neck

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using the deep neck flexor endurance test

6

Description

Endurance of deep neck extensor muscles of the neck

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Using deep neck extensor endurance test

Secondary outcomes

1

Description

Musculoskeletal discomfort

Timepoint

Before the start of the interventions and a few days after the end of the training interventions

Method of measurement

Cornell Musculoskeletal Discomfort Questionnaire (CMDQ)

Intervention groups

1

Description

Intervention group: This group will perform UF exercises for 2 months, 3 days a week and each session for 60 to 70 minutes. Each session consists of 3 parts of a 5-part exercise. At the beginning of the exercise program, a general warm-up is performed for 10 minutes and then a specific warm-up of the neck area for 30 seconds. After that, the training sections are performed three times: 1- Static balance exercises are combined with proprioception exercises and are performed for 2 minutes. 2-Cardiovascular endurance exercises are combined with dynamic balance exercises and are held for 30 seconds, then 1 minute of rest is included. 3- Exercises for muscle endurance in the neck area (flexors and extensors) are combined with exercises for correcting the angle of the head and held for 30 seconds. After the end of each part and 1 to 2 minutes of rest, the next parts are done in the same way. After completing the three parts, the parts are repeated from the beginning, and after each part is repeated 3 times, the neck flexibility exercises are performed for 30 seconds and 3 repetitions. At the end of 5 minutes the general cooling is done.

Category

Rehabilitation

2

Description

Control group: This group will not receive any training during the time the experimental group is doing the exercises.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Primary and secondary schools of Isfahan province

Full name of responsible person

Zahra Ebrahimi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Grant name

Grant code / Reference number

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

No

Title of funding source

Islamic Azad 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

Islamic Azad University

Full name of responsible person

Zahra Ebrahimi

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

Sport Pathology and Corrective Exercises, Corrective Exercises

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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