

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison the addition of respiratory exercises to corrective exercises on pain, electromyography, posture, and respiratory pattern in Smartphone users with forward head posture and non-specific chronic neck pain

#### Protocol summary

##### Study aim

Comparison the addition of respiratory exercises to corrective exercises on pain, electromyography, posture, and respiratory pattern in Smartphone users with forward head posture and non-specific chronic neck pain

##### Design

Randomized control trial, With parallel groups, Double blind, randomized

##### Settings and conduct

60 subjects with forward head posture and Non-specific chronic neck pain that met the inclusion criteria was randomly divided into three intervention groups (Corrective \_ Respiratory Exercise Group, Corrective Exercise Group and Control Group). Groups Training interventions will be performed 3 sessions per week for 8 weeks.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: 20-30 year old students, 2 to 4 hours of smartphone use per day, With non-specific chronic neck pain averaging between 3 and 7 out of 10 on the Visual Analog Scale (VAS) scale in the past 3 months, Having a forward head and shoulder posture less than 50 degrees, body Mass Index (BMI) between 19 and 25. Exclusion criteria: History of bone fracture, Neuromyopathy, Inflammation or inflammation of the spinal cord, History of spinal cord injury and surgery, Cardiovascular disease, Trauma, Hypertension, Respiratory disorders, smoking habit, Nerve deficiency, Poor public health, Chronic lung disease, MS.

##### Intervention groups

Combining Corrective Exercises with Respiratory Exercises 2. Corrective Exercises 3. Daily Activities

##### Main outcome variables

Pain, Posture of head and neck, Electromyography of superficial neck muscles (upper trapezius, sternocleidomastoid, scalene, diaphragm and spine neck

erector) and Respiratory pattern

#### General information

##### Reason for update

To enter the start and end dates of the disease

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200212046469N1**

Registration date: **2020-03-04, 1398/12/14**

Registration timing: **prospective**

Last update: **2020-10-18, 1399/07/27**

Update count: **4**

##### Registration date

2020-03-04, 1398/12/14

##### Registrant information

##### Name

Hamid Rezaee dareh deh

##### Name of organization / entity

Center for Human Movement Sciences Kharazmi University

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 2222 8001

##### Email address

std\_h.rezaee@khu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2020-03-10, 1398/12/20

##### Expected recruitment end date

2020-05-09, 1399/02/20  
**Actual recruitment start date**  
2020-03-10, 1398/12/20  
**Actual recruitment end date**  
2020-05-09, 1399/02/20  
**Trial completion date**  
2020-08-10, 1399/05/20

### Scientific title

Comparison the addition of respiratory exercises to corrective exercises on pain, electromyography, posture, and respiratory pattern in Smartphone users with forward head posture and non-specific chronic neck pain

### Public title

Comparison the addition of respiratory exercises to corrective exercises on pain, electromyography, posture, and respiratory pattern in Smartphone users with forward head posture and non-specific chronic neck pain

### Purpose

Treatment

### Inclusion/Exclusion criteria

#### Inclusion criteria:

20-30 year old students 2 to 4 hours of smartphone use per day Non-specific chronic neck pain ranging from 3 to 7 out of 10 on the VAS scale in the past 3 months Having a forward head and shoulder posture with an angle of less than 50 degrees BMI between 19 and 25

#### Exclusion criteria:

History of bone fractures Neuromyopathy Infection or inflammatory arthritis in the cervical spine History of spinal cord injury and surgery trauma Hypertension Respiratory disorders Smoking habit Nerve defect Poor public health Chronic pulmonary disease MS Cardiovascular diseases

### Age

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

### Gender

Both

### Phase

N/A

### Groups that have been masked

- Investigator
- Outcome assessor
- Data analyser

### Sample size

Target sample size: **60**

Actual sample size reached: **60**

### Randomization (investigator's opinion)

Randomized

### Randomization description

Balanced block randomization

### Blinding (investigator's opinion)

Double blinded

### Blinding description

The outcome evaluator, participant, researcher, and data analyst are kept blind.

### Placebo

Not used

### Assignment

Parallel

### Other design features

### Secondary Ids

empty

### Ethics committees

#### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of Kharazmi University

##### Street address

Center for Human Movement Sciences Kharazmi University Mirdamad, South Razan Street, Hesari Street, Keshvari Sport Complex, Tehran, Iran

##### City

Tehran

##### Province

Tehran

##### Postal code

15447-33111

#### Approval date

2019-09-30, 1398/07/08

#### Ethics committee reference number

IR.KHU.REC.1398.023

### Health conditions studied

#### 1

#### Description of health condition studied

Forward head posture

#### ICD-10 code

R29.3

#### ICD-10 code description

Abnormal posture

#### 2

#### Description of health condition studied

Chronic neck pain

#### ICD-10 code

G89.29

#### ICD-10 code description

Other chronic pain

### Primary outcomes

#### 1

#### Description

Pain

#### Timepoint

Before and after the intervention

#### Method of measurement

VAS

#### 2

#### Description

Forward head angle

**Timepoint**

Before and after the intervention

**Method of measurement**

Photogrammetry

**Secondary outcomes**

1

**Description**

Muscle Activity Level 1- Upper Trapezius 2- Sternocleidomastoid 3- Scalene 4- Neck Erector Spine 5- Diaphragm

**Timepoint**

Before and after the intervention

**Method of measurement**

Electromyography device

2

**Description**

Onset of muscle activity 1. Upper trapezius, 2. Sternocleidomastoid 3. Scalene 4. neck erector Spine 5. Diaphragm

**Timepoint**

Before and after the intervention

**Method of measurement**

Electromyography device

3

**Description**

Respiratory pattern

**Timepoint**

Before and after the intervention

**Method of measurement**

Manual Assessment of Respiratory Motion (MARM)

**Intervention groups**

1

**Description**

Intervention group: combination of corrective exercises and respiratory exercises, One session a day, three sessions a week, for eight weeks

**Category**

Rehabilitation

2

**Description**

Intervention group: Corrective Exercises, One session a day, three sessions a week, for eight weeks

**Category**

Rehabilitation

3

**Description**

Control group: Doing daily activities

**Category**

Rehabilitation

**Recruitment centers**

1

**Recruitment center**

**Name of recruitment center**

Kharazmi University Health and Wellness Center

**Full name of responsible person**

Hamid Rezaee darehdeh

**Street address**

Center for Human Movement Sciences Kharazmi University Mirdamad, Sout Razan Street, Hesari Street, Keshvari Sport Complex, Tehran, Iran

**City**

Tehran

**Province**

Tehran

**Postal code**

15447-33111

**Phone**

+98 21 2222 8001

**Fax**

**Email**

std-h.rezaee@khu.ac.ir

**Web page address**

**Sponsors / Funding sources**

1

**Sponsor**

**Name of organization / entity**

Kharazmi University

**Full name of responsible person**

Amir letafatkar

**Street address**

-

**City**

Tehran

**Province**

Tehran

**Postal code**

-

**Phone**

**Fax**

**Email**

letafatkaramir@yahoo.com

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Kharazmi University

**Proportion provided by this source**

20

**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

15447-33111  
**Phone**  
+98 21 2222 8001  
**Email**  
std-h.rezaee@khu.ac.ir

## Person responsible for general inquiries

### Contact

**Name of organization / entity**  
Center for Human Movement Sciences Kharazmi University  
**Full name of responsible person**  
Hamid Rezaee darehdeh  
**Position**  
Master student of Corrective Exercises and Sport injury prevention  
**Latest degree**  
Master  
**Other areas of specialty/work**  
Corrective Exercises and Sport injury prevention  
**Street address**  
Center for Human Movement Sciences Kharazmi University Mirdamad, Sout Razan Street, Hesari Street, Keshvari Sport Complex, Tehran, Iran  
**City**  
Tehran  
**Province**  
Tehran  
**Postal code**  
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**Email**  
std-h.rezaee@khu.ac.ir

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
Center for Human Movement Sciences Kharazmi University  
**Full name of responsible person**  
Hamid Rezaee darehdeh  
**Position**  
Master student of Corrective Exercises and Sport injury prevention  
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Center for Human Movement Sciences Kharazmi University Mirdamad, Sout Razan Street, Hesari Street, Keshvari Sport Complex, Tehran, Iran  
**City**  
Tehran  
**Province**  
Tehran  
**Postal code**

## Person responsible for updating data

### Contact

**Name of organization / entity**  
Center for Human Movement Sciences Kharazmi University  
**Full name of responsible person**  
Hamid Rezaee darehdeh  
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## Sharing plan

### Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

### Study Protocol

Yes - There is a plan to make this available

### Statistical Analysis Plan

Yes - There is a plan to make this available

### Informed Consent Form

Yes - There is a plan to make this available

### Clinical Study Report

Yes - There is a plan to make this available

### Analytic Code

Yes - There is a plan to make this available

### Data Dictionary

Yes - There is a plan to make this available

### Title and more details about the data/document

Only part of the data, such as the dependent variables, The average of all samples, can be shared in scientific articles.

### When the data will become available and for how long

The date of access is August 2020.

### To whom data/document is available

Personal information is confidential and general results are available to anyone in the article.

**Under which criteria data/document could be used**

Information is not available to anyone. general results are available to anyone in the article.

**From where data/document is obtainable**

Hamid Rezaee darehdeh 0098 9353872375 - Email: std-h.rezaee@khu.ac.ir

**What processes are involved for a request to access data/document**

-

**Comments**

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