

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jun 2026

The effect of stretching and strengthening exercises on flexion-relaxation in subject with forward head and rounded shoulder

Protocol summary

Study aim

The effect of stretching and strengthening exercises on relaxation flexion in people with head forward and shoulder rounded

Design

A randomized controlled trial with a control group, with parallel, double-blind, randomized, randomized groups of 60 patients, was used to randomize hidden envelopes and independent personal data.

Settings and conduct

The present study will be conducted at the Research Center of Kermanshah University of Medical Sciences. Due to the nature of the study, participants are not blinded by the division into groups, but the statistician and evaluator are blinded by the division of participants into groups.

Participants/Inclusion and exclusion criteria

Age 12 to 35 years Round shoulder angle of greater than 52° Forward head angle of greater than 46°

Intervention groups

Intervention group: People participate in an 8-week program of stretching and strengthening exercises, 3 sessions per week for 60 minutes. Each training session will include 10 minutes of warm-up, 45 minutes of stretching and strengthening exercises, and 5 minutes of cooling

Main outcome variables

Flexion Relaxation

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200622047888N1**

Registration date: **2020-06-26, 1399/04/06**

Registration timing: **prospective**

Last update: **2020-06-26, 1399/04/06**

Update count: **0**

Registration date

2020-06-26, 1399/04/06

Registrant information

Name

Aynollah Sakinepoor

Name of organization / entity

Kharazmi University, Tehran, Iran

Country

Iran (Islamic Republic of)

Phone

+98 83 4522 6103

Email address

asakenapoor@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-07-05, 1399/04/15

Expected recruitment end date

2020-07-21, 1399/04/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of stretching and strengthening exercises on flexion-relaxation in subject with forward head and rounded shoulder

Public title

The effect of stretching and strengthening exercises on flexion-relaxation

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria:

Age 12 to 35 years Round shoulder angle of greater than 52° Forward head angle of greater than 46°

Exclusion criteria:

A previous history of neck or back surgery Neurological signs, rheumatoid arthritis affecting the neck or back Current use of a muscle relaxer and engagement in regular weekly physical activities, or being professional athlete

Age

From **12 years** old to **35 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size

Target sample size: **72**

Randomization (investigator's opinion)

Randomized

Randomization description

Patients were randomly divided into 30 groups using Random allocation software. The numbered envelopes will be arranged in the order of 1 to 60, respectively, and within each envelope the type of treatment is specified, which will be executed after the treatment envelope is opened

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, the outcome assessors as well as the data evaluators were individuals outside the treatment and research team.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Kermanshah University of Medical Sciences

Street address

No. 9, West Hor Ave., Chmran Blvd., Kermanshah Town

City

Kermanshah

Province

Kermanshah

Postal code

6761753164

Approval date

2020-05-12, 1399/02/23

Ethics committee reference number

IR.KUMS.REC.1399.225

Health conditions studied

1

Description of health condition studied

Forward head

ICD-10 code

M63.8

ICD-10 code description

Disorders of muscle in diseases classified elsewhere

2

Description of health condition studied

Rounded shoulder

ICD-10 code

M63.8

ICD-10 code description

Disorders of muscle in diseases classified elsewhere

Primary outcomes

1

Description

The square root is calculated neck muscle signal. And by dividing the value of the root of the second root of the muscle in the case of complete bending over its value in the maximum muscle activity (MVC), a value (ratio) for each muscle is obtained. This number will be the criterion for judging muscle activity and relaxation flexion.

Timepoint

Flexion relaxation is measured at the beginning of the study (before the intervention) and 8 weeks after the start of the exercise.

Method of measurement

Electromyography

Secondary outcomes

1

Description

The Angle of forward head

Timepoint

The Angle of forward head is measured at the beginning of the study (before the intervention) and 8 weeks after the start of the exercise.

Method of measurement

The Angle of forward head will be obtained by AutoCAD photos and software

2

Description

The Angle of Rounded shoulder

Timepoint

The Angle Rounded shoulder is measured at the beginning of the study (before the intervention) and 8 weeks after the start of the exercise.

Method of measurement

The Angle Rounded shoulder will be obtained by AutoCAD photos and software

Intervention groups

1

Description

Intervention group: People participate in an 8-week program of stretching and strengthening exercises, 3 sessions per week for 60 minutes. Each training session will include 10 minutes of warm-up, 45 minutes of stretching and strengthening exercises, and 5 minutes of cooling.

Category

Rehabilitation

2

Description

Control group: The participants in this group only do their daily work and no new intervention is applied to them.

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Enghlab Club

Full name of responsible person

Ali mohmmadi

Street address

No.8, West Hor Ave., Chamran Blvd., sharstani Town

City

Eslamabad-e Gharb

Province

Kermanshah

Postal code

6761753164

Phone

+98 83 4522 6103

Email

asakenapoor@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Kermanshah University of Medical Sciences

Full name of responsible person

Mohammad Mohmadi

Street address

No. 3, North Arghavan Ave.,Bahsti Blvd., Elahiyeh Town

City

Kermanshah

Province

Kermanshah

Postal code

6761753164

Phone

+98 83 4522 6103

Email

asakenapoor@yahoo.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Kermanshah University of Medical Sciences

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

Kharazmi University, Tehran, Iran

Full name of responsible person

Aynollah Sakinepoor

Position

. PhD student in Corrective Exercise & Sport Injuries

Latest degree

Master

Other areas of specialty/work

Corrective Exercise & Sport Injuries

Street address

No. 8, north Arghavan Ave., Chamran Blvd., Sharstani Town

City

Eslamabad-e Gharb

Province

Kermanshah

Postal code

6761753164

Phone

+98 83 4522 6103

Email

asakenapoor@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Kharazmi University, Tehran, Iran

Full name of responsible person

Amir Letafatkar

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Corrective Exercise & Sport Injuries

Street address

No. 2, South sahed,fardis Blvd., Eslamsahr Town

City

Tehran

Province

Tehran

Postal code

6761753123

Phone

+98 83 4522 1361

Email

letafatkaramir@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

Kharazmi University, Tehran, Iran

Full name of responsible person

Aynollah Sakinepoor

Position

PhD student

Latest degree

Master

Other areas of specialty/work

Corrective Exercise & Sport Injuries

Street address

No. 2, north Hor., Chamran Blvd., Sharstani Town

City

Eslamabad-e Gharb

Province

Kermanshah

Postal code

6761753164

Phone

+98 83 4522 6103

Email

asakenapoor@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no more information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available