Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

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

Public title
The effect of stretching and strengthening exercises on flextion-relaxtion
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

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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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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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
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Position
. PhD student in Corrective Exercise & Sport Injuries
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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