# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

10 Jun 2026

## The Effect of Selected Corrective Exercises on Postural Indices in Myopic Individuals with Upper Crossed Syndrome

## Protocol summary


**Study aim**

To determine the effect of selected corrective exercises on forward head angle and rounded shoulder degree in myopic individuals.

**Design**

This study is a quasi-experimental trial with two parallel groups (experimental and control) using simple randomization. The sample size was set at 32 participants (16 in each group). The experimental group undergoes an 8-week selected corrective exercise program, while the control group receives no intervention. Measurements are conducted in the pre-test and post-test phases.

**Settings and conduct**

This study is conducted at Kashan University in a facility suitable for corrective exercises. After selecting participants based on inclusion and exclusion criteria, postural indices—including forward head angle and rounded shoulder degree—are measured in both pre-test and post-test phases, and the changes between the two groups are compared.

**Participants/Inclusion and exclusion criteria**

Female university students aged 18 to 25 years with myopia and upper crossed syndrome, including forward head and rounded shoulders, confirmed by postural assessments, and having a body mass index (BMI) below 25.

**Intervention groups**

Participants in the intervention group took part in a selected corrective exercise program aimed at improving postural alignment associated with upper crossed syndrome. The exercises were based on the Corrective Exercise Model of the National Academy of Sports Medicine (NASM) and included inhibitory, stretching, strengthening, and integrative phases.

**Main outcome variables**

Forward head angle; Rounded shoulder degree


## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20250930067436N1**
Registration date: **2026-01-25, 1404/11/05**
Registration timing: **prospective**

Last update: **2026-01-25, 1404/11/05**
Update count: **0**

**Registration date**

2026-01-25, 1404/11/05


**Registrant information**

**Name**
Neda Kazemi
**Name of organization / entity**
The University of Toloemehr Qom
**Country**
Iran (Islamic Republic of)
**Phone**
+98 31 5534 5091
**Email address**
kazemi.neda89@gmail.com


**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2026-04-04, 1405/01/15

**Expected recruitment end date**

2026-05-05, 1405/02/15

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**
The Effect of Selected Corrective Exercises on Postural Indices in Myopic Individuals with Upper Crossed Syndrome

**Public title**
Selected Corrective Exercises and Their Impact on Posture

**Purpose**
Supportive

**Inclusion/Exclusion criteria**

**Inclusion criteria:**
Having myopia (nearsightedness) confirmed by an optometrist The presence of upper crossed syndrome symptoms, including forward head and rounded shoulders, confirmed by postural assessments Having the ability to perform corrective exercises Having a body mass index (BMI) below 25 Having a written consent form to participate in the study and full cooperation during the assessment and exercise phases Female students Age between 18 and 25 years

**Exclusion criteria:**
Having prior experience participating in related corrective exercise programs during the past six months Presence of musculoskeletal injuries, especially in the neck, shoulder, and spinal regions Having balance problems or severe uncorrected visual impairments Having progressive neuromuscular or musculoskeletal disorders Having undergone surgery in the head, neck, shoulder, or spinal region within the past year Starting a similar exercise program or undergoing physiotherapy outside the scope of the study

**Age**
From **18 years** old to **25 years** old

**Gender**
Female

**Phase**
N/A

**Groups that have been masked**

- Participant
- Outcome assessor

**Sample size**
Target sample size: **32**

**Randomization (investigator's opinion)**
Randomized

**Randomization description**
To allocate participants to the experimental and control groups, simple randomization with an individual unit was used. Each participant was assigned a unique identification number, and the random sequence was generated using SPSS software. The first 16 numbers were assigned to the experimental group, and the next 16 numbers to the control group. To prevent bias, the allocation sequence was placed in sealed envelopes, so that neither the researcher nor the participants were aware of the group assignment until the time of allocation. Stratified randomization was not used in this study because the baseline characteristics of the participants were homogeneous.

**Blinding (investigator's opinion)**
Double blinded

**Blinding description**
This study is a randomized controlled clinical trial with a pretest–posttest design. Eligible participants were enrolled after obtaining written informed consent and were randomly allocated to the intervention and control groups. Due to the nature of the exercise-based intervention, full blinding was not feasible. However, the outcome assessor was blinded to group allocation, and participants were not informed about the study hypothesis or their group assignment. All participants received a full explanation of the study objectives and procedures and provided written informed consent prior to participation.

**Placebo**
Not used

**Assignment**
Parallel

**Other design features**
The distinctive aspect of this study lies in its focus on myopic individuals diagnosed with upper crossed syndrome and the implementation of a selected corrective exercise program designed according to specific postural indicators, namely forward head angle and rounded shoulder degree. Furthermore, to minimize potential participant attrition during the intervention period, the final sample size was increased from 28 to 32 participants.This quasi-experimental design enables a direct comparison of the effects of corrective exercises with a control group and facilitates the evaluation of pre- and post-intervention changes, thereby providing insight into the efficacy of corrective exercises in improving postural alignment among myopic individuals with upper crossed syndrome.

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**
Ethics committee of the Faculaty of Sport and Health Sciences

**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st

**City**
Tehran

**Province**
Tehran

**Postal code**
37 - 88351730

**Approval date**
2026-01-18, 1404/10/28

**Ethics committee reference number**
IR.UT.SPORT.REC.1404.221

## Health conditions studied

**1**

**Description of health condition studied**
Upper Crossed Syndrome
**ICD-10 code**
**ICD-10 code description**

## Primary outcomes

**1**

**Description**
upper Crossed syndrome
**Timepoint**
Before and after the intervention
**Method of measurement**
3D motion analysis software

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
The program includes a combination of stretching, strengthening, and postural correction exercises.
**Category**
Other

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
Kashan University
**Full name of responsible person**
Neda kazemi
**Street address**
No.1, Shadab Ave., Amirkabir Blvd
**City**
Kashan
**Province**
Isfehan
**Postal code**
8718653897
**Phone**
+98 31 5534 5091
**Email**
Kazemi.neda89@gmail.com

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
The University of Kashan
**Full name of responsible person**
Kayvan Sharifmoradi
**Street address**
Qotb-Ravandi Blvd, 6 Kilommeter
**City**
Kashan
**Province**
Isfehan
**Postal code**
8731753153
**Phone**
+98 31 5591 4272
**Email**
info@kashanu.ac.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
The University of Kashan
**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**
Tolu-e Mehr Nonprofit University, Qom
**Full name of responsible person**
Neda kazemi
**Position**
Master's student
**Latest degree**
Bachelor
**Other areas of specialty/work**
Sports coach
**Street address**
No. 1, Shadab Ave., Amirkabir Blvd.
**City**
Kashan
**Province**
Isfehan
**Postal code**
8718653897
**Phone**
+98 31 5534 5091
**Email**
Kazemi.neda89@gmail.com

## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**
Tolu-e Mehr Nonprofit University, Qom

**Full name of responsible person**
Neda kazemi

**Position**
Master's student

**Latest degree**
Bachelor

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+98 31 5534 5091

**Email**
Kazemi.neda89@gmail.com

## Person responsible for updating data

**Contact**

**Name of organization / entity**
Tolu-e Mehr Nonprofit University, Qom

**Full name of responsible person**
Neda kazemi

**Position**
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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**
Undecided - It is not yet known if there will be 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**
The shared dataset will include de-identified individual participant data after removal of all direct and indirect identifiers. Data eligible for sharing will comprise key demographic variables, primary and secondary outcome measures, and variables used in the main statistical analyses. Raw data containing identifiable information, complete medical records, or participant contact details will not be shared.

**When the data will become available and for how long**
Data will be available starting 6 months after publication of the primary study results and will remain accessible for a period of 5 years.

**To whom data/document is available**
Access may be granted to qualified researchers affiliated with academic institutions, research centers, or recognized scientific organizations. Requests from industry researchers may also be considered upon submission of a scientifically sound research proposal and approval by the relevant review committee.

**Under which criteria data/document could be used**
The data may be used solely for scientific research purposes, including secondary analyses. Applicants must submit a clear research proposal and sign a data use agreement committing to ethical use and non-attempt of participant re-identification. Commercial use, data redistribution, or any use beyond the approved scope is not permitted.

**From where data/document is obtainable**
Requests for data access should be submitted by contacting the corresponding investigator of the study via email. If required, requests will be forwarded to the relevant scientific or ethics committee for review.

**What processes are involved for a request to access data/document**
Upon receipt of a request, the research proposal will be reviewed by the study team. If necessary, the request will be evaluated by the relevant scientific or ethics committee. Following final approval and signing of a data use agreement, the data will be shared through a secure method. This process typically takes 4 to 8 weeks.

**Comments**