

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

#### Protocol summary

##### Study aim

Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

##### Design

The clinical trial has two groups, a control group and an exercise group, and is randomized.

##### Settings and conduct

This clinical study aims to investigate the effectiveness of exercise on elderly men in Sanandaj. 22 participants from a nursing home will be randomly divided into two groups of 11: an exercise intervention group and a control group.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria for the study: Age range between 60 and 79 years, no history of acute injury in different parts of the body, no problems with vision, hearing, and vestibular function, no history of stroke or inner ear disorders, obtaining a minimum score of 24 on the Mental State Examination (MMSE), the ability to walk independently, and negative responses to all questions on the Physical Activity Readiness Questionnaire (PAR-Q). The exclusion criteria for subjects from the study were missing three sessions of the exercise program, not being present at the pre-test and post-test, taking medications that affect balance, and reporting a history of imbalance and dizziness.

##### Intervention groups

**Exercise group** The exercise phase will include a dynamic neuromuscular stabilization exercise protocol. The exercise period will be 8 weeks, three sessions per week, and each session will be 50 minutes. Each session will include 5 minutes of warm-up exercises, 40 minutes of dynamic neuromuscular stabilization exercises, and 5 minutes of cool-down exercises. Exercise movements will include diaphragmatic breathing, supine 90-90, prone, rolling, side sitting, oblique sitting, three-legged

standing, kneeling, squatting, and standing up The control group will not do any activity

##### Main outcome variables

Muscular strength, static balance, dynamic balance

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20260417069089N2**

Registration date: **2026-06-01, 1405/03/11**

Registration timing: **prospective**

Last update: **2026-06-01, 1405/03/11**

Update count: **0**

##### Registration date

2026-06-01, 1405/03/11

##### Registrant information

##### Name

Saber Saedmocheshi

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 918 999 5148

##### Email address

metabolism1393@gmail.com

##### Recruitment status

**Not yet recruiting**

##### Funding source

##### Expected recruitment start date

2026-06-22, 1405/04/01

##### Expected recruitment end date

2026-09-23, 1405/07/01

##### Actual recruitment start date

empty  
**Actual recruitment end date**  
empty  
**Trial completion date**  
empty

**Scientific title**  
Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

**Public title**  
Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

**Purpose**  
Supportive

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
No history of acute injury Not having vision problems Not having a hearing problem Ear and ear canal disorders No history of stroke

**Exclusion criteria:**

**Age**  
From **60 years** old to **79 years** old

**Gender**  
Male

**Phase**  
N/A

**Groups that have been masked**  
*No information*

**Sample size**  
Target sample size: **22**

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

**Randomization description**  
This study will use a simple randomization method. Participants will be randomly assigned to two groups: an exercise intervention group and a control group. Randomization will be performed at the individual level, with each of the 22 study participants placed in one of the two groups. A computer sequence will be used to randomly assign participants to each group. This method provides high precision and reproducibility and minimizes selection bias. The sequence of participant allocation was generated using a block randomization method with variable block sizes (e.g., 4 and 8) and a 1:1 allocation ratio to ensure a balanced distribution of participants across the two groups. This randomization sequence was generated by a dedicated computer program or a validated statistical software. Specifically, SPSS version 26 was used to generate the allocation sequence.

**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**

university of kurdistan

**Street address**

university

**City**

sanandaj

**Province**

Kurdistan

**Postal code**

6639115831

**Approval date**

2025-11-03, 1404/08/12

**Ethics committee reference number**

ir.uok.rec.1404.006

## Health conditions studied

1

**Description of health condition studied**

AGEING

**ICD-10 code**

**ICD-10 code description**

## Primary outcomes

1

**Description**

STRENGTH MUSCLE

**Timepoint**

Before the start of the intervention and 60 days after the start of the intervention

**Method of measurement**

Before the start of the intervention and 60 days after the start of the intervention

2

**Description**

BALANCE

**Timepoint**

Before the start of the intervention and 60 days after the start of the intervention

**Method of measurement**

Using functional tests

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: Intervention group: The training steps will include a dynamic neuromuscular stabilization exercise protocol. The training period will be 8 weeks, three sessions per week, and each session will be 50 minutes. Each session will include 5 minutes of warm-up exercises, 40 minutes of dynamic neuromuscular stabilization exercises, and 5 minutes of cool-down exercises. The training movements will include diaphragmatic breathing, supine 90-90, prone, rolling, side sitting, oblique sitting, three-legged standing, kneeling, squatting, and standing.

#### Category

Rehabilitation

### 2

#### Description

Control group: NON-ACTIVITY

#### Category

Other

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

university of kurdistan

##### Full name of responsible person

saber saedmocheshi

##### Street address

university

##### City

sanandaj

##### Province

Kurdistan

##### Postal code

6639115831

##### Phone

##### Email

saedmocheshi@uok.ac.ir

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

university of kurdistan

##### Full name of responsible person

saber saedmocheshi

##### Street address

university

##### City

sanandaj

##### Province

Kurdistan

##### Postal code

6639115831

##### Phone

##### Email

saedmocheshi@uok.ac.ir

#### Grant name

#### Grant code / Reference number

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

Yes

#### Title of funding source

university of kurdistan

#### 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

university of kurdistan

##### Full name of responsible person

saber saedmocheshi

##### Position

faculty

##### Latest degree

Ph.D.

##### Other areas of specialty/work

Sport Medicine

##### Street address

university

##### City

sanandaj

##### Province

Kurdistan

##### Postal code

6639115831

##### Phone

0098 87 334600

##### Email

saedmocheshi@uok.ac.ir

## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

university of kurdistan

##### Full name of responsible person

saber saedmocheshi

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##### Latest degree

Ph.D.

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**Web page address****Person responsible for updating data****Contact****Name of organization / entity**

university of kurdistan

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**Position**

faculty

**Latest degree**

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**Email**

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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**

Not applicable

**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable

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

En All data is potentially shareable after de-identifying individuals.

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

One years AFTER publication

**To whom data/document is available**

All people who study ageing in scientific institutions, as well as ageing people themselves

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

The information extracted from the present work can be used by sports coaches who are designing training programs, older adults, and gerontology specialists to improve their performance.

**From where data/document is obtainable**

After publishing the data in reputable journals, the reader, after studying and being interested in the topic in question, is first referred to the author responsible for the work whose email address and phone number are mentioned in the article. In the second stage, the other authors of the article are contacted using your email. In the third stage, they can go to the place where the research was conducted, i.e. the university, and obtain information from the university's research department.

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

Since the publication of the article takes one year, readers who are interested in this field can immediately message or email the responsible author after one year and when the article is published. The responsible author will provide the person with relevant data and appropriate information as soon as possible and on the same day.

**Comments**